Scholar 221
Chapter 221
Lu Zhou took the microphone from the headmaster. He cleared his throat and spoke with a warm voice.
"Let me introduce myself, I'm an alumnus here. I graduated in 2013. My name is Lu Zhou."
"I'm honored to be given the opportunity to stand here and speak with my schoolmates."
"And what I want to talk to you today is about my university"
Lu Zhou was being quite modest.
The school was honored to have him here, and not the other way around.
The popularity of Jiangling High had blown up due to Lu Zhou's success.
Honestly, Lu Zhou's success did not have anything to do with Jiangling High, but he did attend the school.
After all, education was education. His high school gave him the foundation for his success.
Some of the teachers that taught him were even given "special teacher" awards.
On the playground, the third-year students at the third class squad.
Xiao Tong stood at the tip of her toes and looked at the flag.
She was not even paying attention to her brother's speech!

Next to Xiao Tong was her best friend Li Wei. She was the one who bought the makeup from Xiao Tong. When Li Wei saw that the teacher was not paying attention to them, she poked Xiao Tong's arm and asked quietly, "Tong Tong, is that your brother?"
Xiao Tong lowered her voice and said excitedly, "Yea, why? 21-year-old PhD. Do you want me to introduce him to you?"
Li Wei blushed and said, "Piss off, he's too old."
"Just kidding. Even if you want, I won't give him to you," said Xiao Tong. She poked her tongue out and gave her a playful smile. A few male students in her class had butterflies in their stomachs.
High school kids were innocent compared to students in universities.
In a small city, a girl that had good grades, decently attractive, and an open personality would be the goddess in the minds of countless boys.
Xiao Tong fitted in this category.
Unfortunately, this goddess had yet to express any interest in any boys. This caused many boys to divert their attention onto Li Wei instead.
However, now, looking at Lu Zhou, the boys understood the reason.
People naturally loved to compare.
Compared to her brother, these boys were nothing

...

After New Year's Day, Lu Zhou rested at home. He would chat with his parents, or teach mathematics to Xiao Tong. In his spare time, he would study some Goldbach's conjecture material. There was still room for improvement under the circle method and sieve method. He would also reply to Professor Frank's emails. In addition, he was learning how to drive. It was easy for Lu Zhou. Maybe it was because of his calm personality. He would never accidentally hit the gas pedal when he was supposed to break. In order to get his driver's license as soon as possible, he low-key bribed the driving instructor. In a small town like his, money could get a lot of things done. Within thirty days, Lu Zhou successfully obtained his driver's license. Next was to recite the rules of the local road of New Jersey. He had experience driving in China so it would not be difficult to get one overseas. Lu Zhou even consulted Luo Wenxuan about this. Time quickly passed by. It was soon February, and only a few days left before Chinese New Year.

Lu Zhou was taking a walk with his father at night. When he looked a the familiar roads, he suddenly

said, "Father."



Lu Bangguo stood straight and said, "You... Keep the money! Didn't I already tell you? Save it for a house, save it for marriage! I can still work, so I don't need it!" Lu Zhou said, "I'm still far off from marriage, and Xiao Tong is about to go to University." Lu Bangguo said sternly, "Don't worry about your sister, I can get her to university." Lu Zhou knew that his dad would say this. He sighed and said, "Do you want her to be like me?" He still had more to say. However, silence ensued. The financial situation at home was not good back then. Lu Bangguo had to provide for two kids and a sick wife. As a lower-middle-class worker, it was difficult for him. Lu Zhou was the one to propose paying for his university expenses. At first, Lu Bangguo was strongly against it. However, after coming back to reality, Lu Bangguo accepted. Lu Zhou knew that this had always bothered his father. Lu Bangguo always thought that he let his kid down... Other people's fathers would host university acceptance parties for their kids. However, he allowed his own son paid for his four-year living expenses and tuition. Lu Zhou did not say anything. He waited for his father to slowly finished smoking the cigarette. After a while, Lu Bangguo finally sighed and said, "I know that you care about your sister, but the

university doesn't cost that much."

When Lu Zhou heard this, a smiled emerged on his face.
He knew that at last, his father had agreed.
"It isn't just Xiao Tong. I care about you guys as well. After all, I'm overseas and I want you and mom to live well," said Lu Zhou with a smile. He then said, "This is settled."
Lu Bangguo said, "What do you mean settled? Who is the head of the family? Did I agree?"
Lu Zhou smiled and said, "Then dad, do you agree?"
Also, didn't you agree last time already?
Lu Zhou remembered that last time his father said that he could make the decisions.
Lu Bangguo thought for a moment before he said "Sure, I agree. Just do it your way."
Lu Zhou: ""
I don't understand your logic
Chapter 222
However, happy times were always short-lived.
After Chinese New Year, Lu Zhou packed his bags and was ready to leave.
Lu Bangguo took a day off from work and sent Lu Zhou to the train station. He smiled at Lu Zhou and asked, "Do you want me to send you?"

"No need, this isn't my first time traveling," said Lu Zhou. With his backpack on him, he said, "Take care of yourself, I'll visit you guys next year."
Lu nodded and said, "Okay then, take it easy. Also, be careful. I've been watching the news lately and there's been a fight over there. Anyway, just don't provoke others. Study hard. Also, remember to call"
"Okay!"
In his father's eyes, there was only China and the rest of the world. There was no difference between North America and North Africa.
Lu Zhou was well aware of his father's lack of geography knowledge.
However, Xiao Tong would still complain about it.
Lu Zhou sat on the train moving toward the east. He returned to University of Jin Ling campus. Since Chinese New Year had already ended, many students had returned to school.
The day before leaving, Lu Zhou post it on his WeChat news feed. Professor Lu Shenjian was already
back in China, so Lu Zhou went to visit him.
Lu Zhou stood in front of the office door and knocked.
Soon, a voice came from behind the door. "Stop knocking, come in."

Lu Zhou pushed the door and walked in.

When Professor Lu saw Lu Zhou, he put down his vacuum flask. With a smile, he asked, "Hey, it's been a while since I last saw you. How are you?"

It had been a while. Lu Zhou had not seen Professor Lu since October at the Chinese Mathematics Society conference.

Lu Zhou smiled and replied, "Not bad, how about you?"

Professor Lu, "I'm alright. Although I couldn't celebrate Chinese New Year, Brussels was quite rewarding."

Lu Zhou walked to the desk and asked, "Is there any new discoveries in theoretical physics?"

He had been focusing on Goldbach's conjecture and driving recently. Apart from replying to Professor Frank's emails, he had not been paying attention to the theoretical physics community.

"There hasn't been any new discoveries. This meeting was mainly to sort out that work that has been done before," said Professor Lu. He paused for a moment before continuing, "However, there's one thing that might interest you. In the meeting at the University of Brussels, we talked about the 750 GeV problem... The situation doesn't seem good though."

Intrigued, Lu Zhou immediately asked, "Can you tell me the specific situation?"

Professor Lu nodded and said, "It's not much, but the main thing is that the confidence value hasn't reached the standard confirmation yet. It's close to 3-sigma, but it's slightly off. Also, in recent experiments, the characteristic peak even disappeared."

Lu Zhou was stunned, "Disappeared?"

He had not heard Frank talked about this in the emails.

Professor Lu nodded and continued, "Yeah... Although it's possible to explain this with quantum fluctuations, the probability is low. Some people guessed that there was a problem in the detector sensors... But honestly, that probability is low as well. CERN recently completed the upgrade to the Large Hadron Collider, so there should be nothing wrong with the equipment."

Lu Zhou thought for a moment before he asked in an uncertain tone, "Is it a dimension problem?"

This guess was something that he and Professor Frank disagreed on.

When Professor Lu heard this proposition, he said, "Dimension?"

Lu Zhou nodded and said, "Yeah, but not a dimension in a broad sense, but in a sense of 'pseudo-Euclidean space'. That is, Minkowski's space-time theory..."

While speaking, Lu Zhou wrote down a few equations on a piece of draft paper. He did not dare to write too much.

It was not because of privacy reasons. From the perspective of academic ethics, he could not disclose research to a third party.

The stuff he wrote down were all unconfirmed theories such as the theories that Lu Zhou and Frank disagreed on.

Professor Lu looked at the lines of equations on the page. He thought for a long time then said, "There's this possibility, but it's difficult to prove. Because the collider is part of the reference system, it's hard to take ourselves out of the timeline... You haven't perfected this theory, right?"

Lu Zhou smiled and said, "I only thought of this on the spot, so it hasn't been perfected."

"Thinking of this on the spot is impressive," said Professor Lu as he looked at Lu Zhou and nodded. He then said, "You don't need to pressure yourself so much. Finding the characteristic peak is CERN's

responsibility. Theoretical physics is developed through constant trial and error. All of our theories are just speculations... "

"... But, your point of view is interesting. If only you could shave off the rough edges," said Professor Lu as he smiled. He then said, "I originally wanted to test you, to see what you learn this year. It seems that isn't necessary now."

Lu Zhou smiled and said, "What do you mean isn't necessary..."

Professor Lu smiled and said, "Oh? How about I give you a test then?"

Lu Zhou coughed and replied, "Never mind."

He had already bought his ticket and god knows when this test would be.

Professor Lu smiled and did not say anything else.

He opened his drawer and pulled out two certificates before handing them to Lu Zhou.

"The degree certificate and graduation certificate is here. Just go to the administrative building later and finish the procedures."

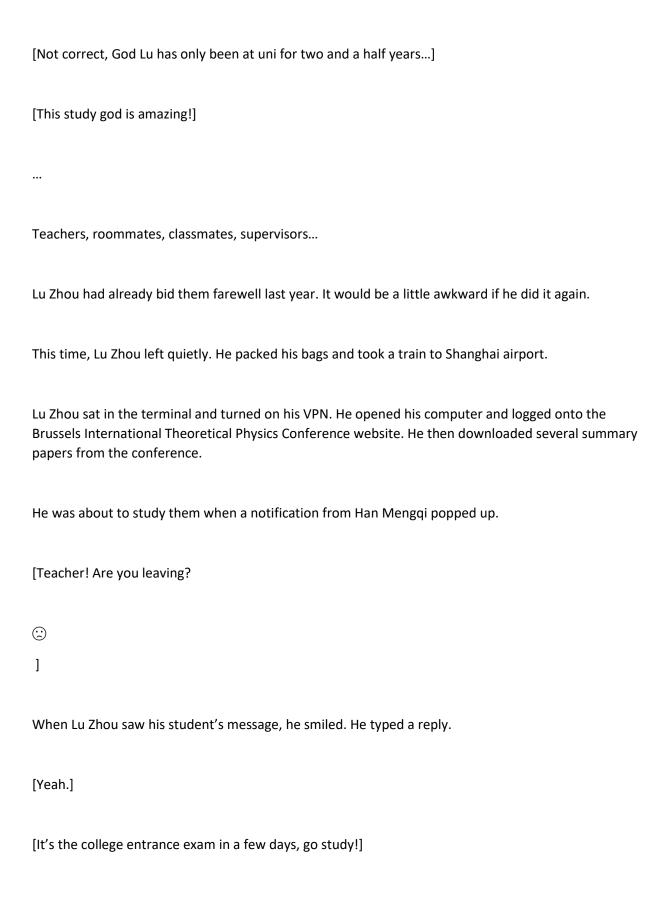
Lu Zhou took the two certificates from Professor Lu and said, "Thank you, professor!"

"You're welcome. You earned this through your own hard work. Honestly speaking, I really don't want to let such an excellent student go so soon," said Professor Lu. He smiled and said, "But since you won the Cole Prize, it would be a waste of time for you to stay here. You should go to a higher platform to do scientific research. Congratulations on your graduation!"

Chapter 223

However, this small change was meaningful.

After Lu Zhou put on the gown, he went to the photography store in front of the school. He then hired a photographer to help him take a few photos around the school.
With these photos, he thought he would not be lonely when he was studying abroad.
After Lu Zhou finished his photo shoot, he picked three of the best photos and sent it to his friends' news feed on Weibo.
The caption was a one-liner.
[Happy Graduation!]
Lu Zhou looked at the line of words on the screen and smiled.
Princeton, here I come!
Lu Zhou sent it before he turned off his phone. He planned on checking it later.
While he was walking back to his hotel, his Weibo's comment section blew up.
[? ? ?]
[Didn't you just graduate last year? Why are you graduating again?]
[Jesus, he graduates faster than I can write a thesis.]
[Sad. I wanted to procrastinate on my phone, then I saw this post I'll go write my assignment.]
[This guy has only been at university for three years!]





Nothing happened as he got on the plane and embarked on a new journey.

After a dozen or so hours of flying, the plane landed at Philadelphia Airport.
It was raining when Lu Zhou got on the plane, but it was clear blue skies when he landed.
The east coast sun shined on Lu Zhou's face as he stood outside the airport with his luggage and looked around. He then walked toward a road.
The day before yesterday, he sent Luo Wenxuan a message. They agreed to meet up.
At the coffee shop outside the airport, Lu Zhou saw that familiar car and Luo Wenxuan who was standing next to it.
"Haha, Lu Zhou! You're finally here!"
Luo Wenxuan walked over and gave him a warm hug. He then patted Lu Zhou's shoulder and said, "Not bad, everyone gets fatter over the new year but you looked skinnier?"
Lu Zhou smiled and said, "Maybe because I didn't eat that much? How long have you been waiting here?"
Luo Wenxuan, "Not long, maybe around an hour."
Lu Zhou, "Wow, let me buy you some food."

Luo Wenxuan waved his hand, "No it's fine. It's your first day here in America, I should be the one treating you. There's a nice Sichuan restaurant in Philadelphia. I know the boss. Get in the car first, we can talk about where to eat later."

Luo Wenxuan helped Lu Zhou with the luggage. He then started the car.

While driving, Luo Wenxuan said, "Remember to put your seat belt on. Oh yeah, do you plan on getting a driver's license here? The cars here are very cheap. I can recommend a place to buy one."

Lu Zhou smiled and said, "I actually do have plans for that."

Lu Zhou suddenly remembered something. His phone was still charging in his luggage.

"Oh yeah, my phone is still in my suitcase..."

Luo Wenxuan, "Is there an emergency?"

Lu Zhou shook his head, "No... It's fine, I'll just wait until we are at the restaurant."

Luo Wenxuan smiled and said, "Yeah, good idea. It's not easy to find parking around here."

The two chatted along the ride. At the same time, on the other side of the Philadelphia International Airport, a silver-white car parked 200 meters away from the coffee shop.

A slender, long-haired woman stood on the sidewalk. She held her phone and whispered in Chinese.

"How come he hasn't responded yet?"

"Is the flight delayed?"



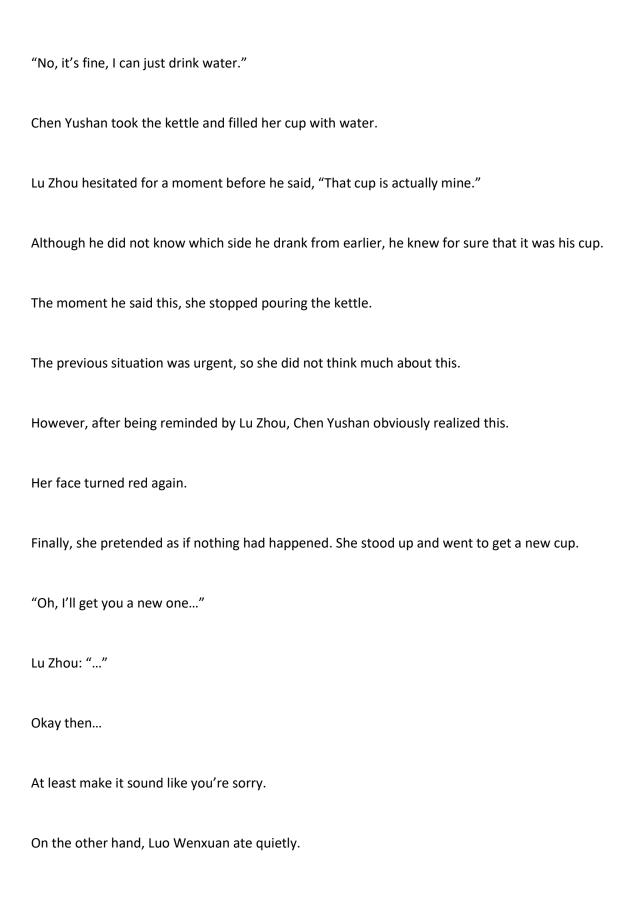
"Yeah," answered Lu Zhou. He heard from her voice that something was wrong and so, he asked, "Don't tell me, you're here as well"
Lu Zhou finally knew why Mengqi said "Ok".
Speaking of which, he remembered that she said she would be in Philadelphia at this time of the year. She even said to call her when he arrived in Philadelphia.
However, Lu Zhou was a little confused.
It's been so long, who would remember?
Chen Yushan said, "Send me your location."
She then hung up the phone.
Lu Zhou had a headache.
He felt a little bad making her wait at the airport for so long. He opened WeChat and quickly sent her his location.
She did not respond.
After a minute, a message came through.
[Wait for me, don't eat yet!]
Luo Wenxuan was flipping through the menu when he saw Lu Zhou's dumbfounded expression. He then asked, "What's wrong?"

Lu Zhou put away his phone and said, "Nothing Let's get an extra pair of chopsticks."
Luo Wenxuan, "Your friend's coming?"
Lu Zhou said, "Yeah, how about I pay for this, and you can treat me later?"
Luo Wenxuan shook his hand and said, "No, it's fine. Just curious, is your friend a guy or a girl?"
"Girl" answered Lu Zhou. He then asked, "Why?"
Luo Wenxuan sighed and looked up as he said, "Nothing, I lost again."
Lu Zhou: ? ? ?
Lost at what?

Maybe the traffic on the road was good as Lu Zhou only waited for ten minutes before he saw a familiar figure walking in.
Chen Yushan walked next to Lu Zhou and sat down. Her face was filled with resentment.
Lu Zhou smiled and said, "Sorry, I really didn't know you were at Philadelphia, so I didn't call you. Also, how did you know I was on that flight?"
Chen Yushan, "Mengqi told me Why didn't you tell me you were coming? You didn't even open your phone!"







He was third-wheeling.
He wanted to curse at Lu Zhou.
Chapter 225
The two split up. Chen Yushan went back to the University of Pennsylvania while Lu Zhou got on Luo Wenxuan's car and went to Princeton.
On the car, Lu Zhou fastened his seat belt and asked, "How's the situation over there?"
Luo Wenxuan said while driving, "What aspect?"
Lu Zhou said, "Like, living?"
Luo Wenxuan said, "Living? There are pros and cons. But you shouldn't worry too much. Mathematics and physics are Princeton's top subjects. I can probably arrange a single bedroom for you. But honestly I think sharing with others are more interesting."
Lu Zhou said, "Is it not troublesome?"
Luo Wenxuan smiled and said, "It's fine. It's interesting to make friends with people from different countries. The room will be lively, and the four people will share a living room. There are even parties on the weekends. I met my ex-girlfriend at a party."
Lively?
No, thanks.
Lu Zhou laughed.
If it was up to him, he would prefer a quiet place.

While driving, Luo Wenxuan talked about the campus lifestyle at Princeton. Somehow, the topic drifted onto his ex.
Lu Zhou listened quietly.
He was about to fall asleep when Luo Wenxuan finally parked the car.
"We're here."
Lu Zhou looked outside and saw a familiar building.
We're already here?
Luo Wenxuan got off the car and helped Lu Zhou with his luggage. He then said, "I'll help you run your school errands. I'm guessing last time you didn't have a chance to really explore Princeton, so you might get lost."
Lu Zhou nodded and said, "Thanks."
Indeed, last time he was at Princeton, he spent most of the time in the hotel solving the twin prime conjecture. Once he solved it, it was already the last day of the conference and he had to catch a flight back home.
Luo Wenxuan smiled and said, "No need to thank me, we're all friends here. We're supposed to help each other."
He then took Lu Zhou to the administrative building.

As one of the oldest universities in America, Princeton had an English influence on its architecture. The buildings were Oxford-styled and old-fashioned. Like the two bronze tigers in front of Nassau Hall that stood tall in this ever-changing world. Most of the people that graduated here would go on to work at an investment bank on Wall Street. Luo Wenxuan took Lu Zhou to Nassau Hall but he did not accompany Lu Zhou inside. Instead, he waited outside with Lu Zhou's luggage. Lu Zhou walked into the historic building and quickly found the admission office. Inside the office was a beautiful woman in her thirties. She had a tan and a ponytail. From her clothes, she looked like an assistant. Maybe someone told her that a Chinese student would report here because she looked at Lu Zhou and swiftly asked, "Did you bring the documents?" Lu Zhou took out the documents and said, "They're all here." The woman looked at the documents. She then opened a drawer. "Your student status is already registered. This is your student ID card and dorm room key. The room number is on the key. Your dorm is here..." The woman circled on the map and handed it to Lu Zhou. She smiled and said, "I hope you have a good time studying here."

That's it?

Lu Zhou blinked and looked at her.

She asked, "Is there anything else?"
Lu Zhou looked at his student ID and key before asking, "What about my supervisor?"
"This is up to you," said the woman. She looked at Lu Zhou and said, "Most people have already chosen a supervisor before they enrolled, but your situation is a bit special. My suggestion is to listen to a few lectures and find a supervisor that fits your style Of course, hopefully, the professor has time. It's best to get this done as soon a possible."
So you're saying I have to interview myself?
Lu Zhou thought that the school had already arranged a supervisor for him.
Still, this was better.
If his supervisor was not a good fit, it would be very troublesome.
Lu Zhou walked out of the building and saw Luo Wenxuan.
"Is the procedure done?"
"I guess."
"Who's your supervisor?"
"I haven't thought about it yet"
"Haven't thought about it yet?" asked Luo Wenxuan. He looked at him strangely as he said, "I thought you already decided."

Lu Zhou said, "I still haven't... Can you recommend someone to me?"

Luo Wenxuan said, "If you're going into mathematical physics, I can recommend my boss, Edward Witten. If you want to focus on number theory or algebra, Deligne is a good choice. If you were here a couple of years ago, you could even choose Fermat's last theorem's prover, Andrew Wiles. But unfortunately, he left in 2011. There's also Gerd Faltings, prover of Modell's conjecture, also a big name in number theory..."

It seemed that other than girls, Luo Wenxuan was quite knowledgeable.

After all, he was studying under Edward Witten.

Lu Zhou took note of his suggestions and nodded as he said, "I'll think about it."

Luo Wenxuan smiled as he asked, "Do you want me to sent you to your dorm?"

Lu Zhou said, "No need, I can just find it on the map."

"Ok, then just call me if you need me."

"Yeah, for sure!"

After separating from Luo Wenxuan, Lu Zhou followed the map and walked toward his dorm.

His dorm was located in a quiet corner of the Princeton campus and it was not far.

Lu Zhou's sense of direction was excellent and he found the place very easily.

He had already seen the photos of the dorm online, so he was mentally prepared. However, when he was standing in front of the dorm building, he was still amazed by it.
It's really
Too retro!
This colonial-style English building was more than 90 years old. Although it had been renovated several times, its appearance had not changed much.
The red brick walls and dark green vines made it look like an old mansion.
Is this building haunted?
Lu Zhou walked in.
While he was dragging his suitcase upstairs, he saw a person standing on the stairs.
Lu Zhou could not see her face clearly, but it was obviously a lady.
The lady smiled at him.
"You're finally here." Lu Zhou recognized the voice and was shocked.
The f*ck?
Is this place haunted?
is this place haunted:

Chapter 226
Lu Zhou, "What?"
"I'm saying that if you haven't chosen one yet, I recommend my supervisor Sophie Morel," said Molina. She looked at Lu Zhou seriously as she continued, "My previous invitation is still valid, our project needs you."
Sophie Morel?
Lu Zhou looked at her with surprise.
Molina raised her eyebrows and asked with a smile, "Are you surprised?"
"Yeah" Lu Zhou nodded.
Sophie was one of the popular candidates for the Fields Medal, a French mathematician.
However what surprised him was not the name Sophie, but it was Princeton's ability to attract talent.
No wonder Princeton was named the center of mathematics for America
Lu Zhou suddenly understood why Princeton wanted to steal him from the University of Jin Ling.
It was all for Princeton to win the Fields Medal
With her arms crossed, Molina smirked and said: ""
"Thanks for your invitation, but I refuse."

Lu Zhou walked pass Molina and dragged his suitcase to the end of the corridor.
What a joke.
There's a 99% chance I can win the medal, why would I choose a supervisor with an 80% chance of winning it? Is she crazy?
Lu Zhou originally planned on listening to a few lectures and find a suitable supervisor. It turned out that he underestimated his own value in regards to how "attractive" he was to the professors at Princeton.
He was invited to an academic exchange and coffee party. While he was eating at the exchange, a young female assistant started to talk to him. Soon, she was asking Lu Zhou about his supervisor.
Luo Wenxuan was even worse. He recommended Lu Zhou numerous professors at the start. However, he would not stop bragging about Edward Witten. A Mexican dude nearby said something like, "That trash?", which resulted in Luo Wenxuan nearly starting a fight.
Lu Zhou knew that he had to do.
To prevent more fighting, he had to make his own decision as soon as possible.
Lu Zhou went to Nassau Hall and got a list of supervisors. He studied the list for an hour before he finally chose Professor Deligne as his first candidate.
The reason was simple.
Algebraic geometry was an important tool for studying number theory and it was also one of Lu Zhou's shortcomings. Lu Zhou wanted to study Grothendieck's original manuscripts, but after he got the files from Academician Xiang Huanan, he found out that he could not understand French at all.

Professor Deligne was a stellar student of Grothendieck. There were only two people in history that had won the Fields Prize, Wolf Prize, and Crawford Award. One of them was Qiu Chengtong and the other was Deligne.

Lu Zhou could learn a lot from Professor Deligne.

After the interview, Lu Zhou thought that this serious professor would test him rigorously. He had not expected Professor Deligne to look at his research material and passed the interview on the spot.

Professor Deligne stood up from his desk and took a gray trench coat from the hanger.

"Welcome to Princeton's big family. I'll help you sort out the relevant paperwork."

"My research group mainly focuses on "standard conjectures". Of course, I have no strict requirements for you. I won't constrain your development. From my observation, you're a scholar who is suited for independent research. If you want to join my research project, I'll welcome you with arms open. If you don't want to, you can complete a task I give you and finish your own thesis at the same time. You can get your degree either way."

Deligne paused. He looked at Lu Zhou and continued, "Of course, my expectations for you are higher than other people. Your graduation thesis must be Annual Mathematics level. If all goes well, you could get your PhD next year. If you're too lax and waste your talent, you may never get your PhD."

Lu Zhou, "I understand... I'll think about your suggestions."

Deligne nodded and said, "Okay... No worries, I understand. Try to get back to me within three days."

Lu Zhou: "..."

...

The Riemann's conjecture was different from the twin prime conjecture or Polignac's conjecture. The conjecture could be summarized in one line: "all non-trivial zeros of the Riemann ζ function are located on the complex plane Re (s) = 1/2".

However, solving it was a massive project. It was like building a skyscraper.

Just like the Poincaré conjecture, Smer introduced the high-dimensional concept in the 1960s. Without Qiu Chengtong's theory of "developing geometric structures with nonlinear differential equations", in which he developed in the proof of the Karaby conjecture, there would be no Hamilton's breakthrough in the "Ricci Stream", and the 93-year paper on the singularity theory. There would be no final proof of Perelman.

This was the characteristics of Millennium Prize Problems. Even a genius, like Perelman, could not skip over previous work and directly established the proof of Poincaré conjecture.

Even if Gauss came back alive and had an extra 80 years, he would not be able to solve it.

Riemann's conjecture was the same as it was even more difficult than Poincaré conjecture.

It was like a mountain, and all of the mathematicians were at the bottom of the mountain. They had no idea how tall the mountain was.

The only thing they knew was that this mountain was nearly impossible to solve. If someone could solve Riemann's conjecture, even five Fields Medals would not be enough...

If someone skipped all of the unsolved problems and used a new mathematical method to solve Riemann's conjecture, the situation would likely be the same as the professor from Nigeria, who was not even a mathematician.

This was akin to people that wanted to use rocks and lightning to create a computer. It was completely out of reality. The Clay Institute would collect hundreds of theses a year and all of them were worthless.

Of course, the mathematicians were not completely at lost. Possible ideas were the "40% zero points" of Kangrui's critical line theorem, or the three mathematicians who recently proposed to introduce the Riemann's conjecture into a special case of quantum mechanical systems.

There was also algebraic geometry methods.

For example, the Wei's conjecture that was proved by Deligne (one of the most brilliant achievements in the pure number field in the 1970s), was often referred to as the "cottage version" Riemann's conjecture.

As for the "standard conjecture" that Professor Deligne said to Lu Zhou, it was the general form of Wei's conjecture. It was proposed by Grothendieck, the "Pope" of modern algebraic geometry.

If Professor Deligne wanted to fulfill his teacher's long-cherished wish of proving Riemann's conjecture, he would have to face the standard conjecture.

When Lu Zhou returned to his dorm and laid in his bed, he started to seriously think about Professor Deligne's offer.

Right now, he had two choices.

One was to join Professor Deligne's research project. Although the standard conjecture could increase his mathematics experience, it would delay the progress of his system mission. Especially since he did not know how much work Professor Deligne had done, or had yet to be done.

The other option was to go solo. He could concentrate all of his energy on Goldbach's conjecture, and use it as his PhD graduation thesis.

Chapter 227

He thought that he would have to go through an interview like everyone else and fight for his spot.

He actually wanted to practice his interviewing skills.

However, it seemed that society was quite welcoming to those with abilities.

Right now, sat opposite him was one of the senior members of the Ivy Club: David Lawrence. A PhD student in history.

Lawrence was a very common surname in the US. If one were to meet a Caucasian family with the surname Lawrence from Boston, one would not be able to help but wonder if they had ties to the Kennedy.

The reason why Lu Zhou was accepted into this club was due to David Lawrence's help.

Since Lu Zhou did not care about cultural background or nationalities, he naturally became David's good friend.

He was Lu Zhou's first friend since arriving at Princeton.

It had been two days since his meeting with Professor Deligne. He still had not made a decision yet.

After listening to a lecture, Lu Zhou went to the Ivy Club for dinner.

David was also there, so the two sat together with their food.

They started to talk about their plans after graduation. David smiled and asked Lu Zhou, "Are you interested in investment banking? If you are, I can recommend a few good places for you."

Lu Zhou, "I don't really have an interest in employment since I prefer to do research."

David smiled and said, "Oh really? Don't you think using mathematics to finesse the financial markets is also very exciting? Maybe you could even earn a Nobel Prize."

Lu Zhou smiled and said, "I haven't studied financial mathematics before. If you're so interested in finance, why don't you do a finance degree instead of history?"

David tapped the wine glass and said, "I actually didn't want to come here. My first choice was to study an MBA at Wharton. But my dad stubbornly sent me here because he's a Princeton alumnus... At first, I also studied mathematics like you, but that stuff was way too hard for me. Therefore, I changed to history."

Lu Zhou was cutting his steak when he sensed a girl staring at him. He sighed.

This guy's a good friend, he's just a bit too handsome.

Even Lu Zhou had to admit that David was beating him in the looks department.

"It seems that every family has their difficulties... But isn't there an MBA at Princeton?"

"Nope," answered David. He smiled and shook his head, "Princeton is the only Ivy League school that doesn't have a business school."

However, even though there was no business school at Princeton, there were many successful entrepreneurs.

For example, the founder of Amazon was a Princeton graduate.

The reason why top companies liked to recruit from Princeton, was mostly because of its academic resources and background. It was also partly due to Princeton's rich alumni association.

While the two were chatting, a lady wearing a black dress walked over.

David noticed that she was not walking toward him, so he smiled and said, "It seems that you have a date? I won't be in the way."



Lu Zhou, "Did you succeed?"

Molina shook her head and hesitated before she said, "Soon!"

Lu Zhou sighed and said, "So, not yet?"

Lu Zhou knew why her supervisor, Sophie Morel, was so impatient.

The 2018 International Mathematician Conference was in two years. There were only four Fields Medal spots, and two were already confirmed.

One was Peter Schultz, the one that created the most promising mathematical frameworks in today's algebraic geometry: "PS theory".

While other people were "solving problems", Schultz, on the other hand, built a tool. A tool created when solving problems was more important than solving the problem itself. Schultz had already won the Philippine Wind Vane EMS Award (European Mathematical Society Award), and there was no doubt that the Fields Medal was his.

The other was the prover of the Polignac's conjecture, Lu Zhou. Although Lu Zhou did not create a mathematical framework like the "PS theory", he solved many important problems.

The Polignac's conjecture was worthy of a Fields Medal.

Qualifications were not involved in the Fields Medal selection process and only the results mattered. This was why Grigori Perelman was able to win the Fields Medal Award. However, he did not accept it as he did not want fame or money.

Grigori Perelman had refused numerous awards including those from the European Mathematical Society which awarded him the Young Mathematician Award.

There were only two spots left for the Fields Medal. A possible candidate was Fernando Marques, a Brazilian guy. The 2018 mathematics conference was going to be held in Brazil, which made it even more interesting.

Other candidates were people like Geordie Williamson, who had also received the EMS Award, or Maryna Viazovska, the Ukrainian mathematics goddess.

If Sophie Molina could contribute to Riemann's conjecture, such as updating Kangrui's "critical line" from 40% to 50%, her chances of winning would greatly increase.

However, Lu Zhou did not understand why Molina was also impatient.

She was a long way from a Fields Medal...

Molina rubbed her hair and stared at Lu Zhou. She said in a certain tone, "My supervisor and I can spend the rest of our lives this problem since I don't plan on producing results soon anyway."

Are you that obsessed?

Lu Zhou put down the knife and wiped his hands with the napkin. He then said, "Then... You go ahead. Don't drag me along. I have other stuff to do."

Molina raised her eyebrows, "Professor Deligne's research project?"

Lu Zhou laughed.

Speaking of which, this time Molina actually gave him a little inspiration.

He had been entangled between the two choices that Professor Deligne threw at him. At the same time, Goldbach's conjecture also gave him two tempting choices. The choice of methods.

Should I use the circle method or sieve method?
Both methods seemed to have reached their last steps, but only a little off.
If this is the case
Lu Zhou's eyes suddenly lit up.
He spoke.
"Goldbach's conjecture."
This time, he used a certain tone.
Molina was stunned and she nearly laughed out loud.
"Sorry I'm not doubting your ability, but I just couldn't hold it in. It seems that I'm right, you are crazy."
Molina asked, "Do you plan on using the circle method or sieve method?"
Lu Zhou heard this question and smirked.
"Neither."
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"Of course not," said Lu Zhou as he shook his head. He then asked an unexpected question, "Do you know about sports?"
Molina frowned and said, "Sports?"

Lu Zhou, "You know about the long jump right."
Molina was confused but she said, "Of course."
Lu Zhou smiled coldly and said, "Brown's a+b proof method is equivalent to the run-up before the long jump. Although the run-up time itself is not included in the score, is the run-up useless? The same logic applies here where a+b is equivalent to the run-up of Goldbach's conjecture. Because without it, there will be no large sieve method, which is an inspiring and potential analytical tool for number theory. It can even be said that the value of the large sieve method is beyond the Goldbach conjecture itself."
Whether or not the large sieve method could really reach 1+1, it had already played an important role in number theory.
Lu Zhou had personally benefited from it.
Molina brushed her hair as she looked at Lu Zhou and asked, "So, how do you plan on proving it?"
Lu Zhou smirked, "Of course, to use my own method."
Molina did not know why, but her heart skipped a beat when she saw Lu Zhou's smile.
Of course, it was only for a second. As a woman married to mathematics, she quickly returned to normal.
A solution to a mathematics conjecture required accumulation of workload and a creative genius.
Both were indispensable.
Just like Fermat's last theorem.

When the Taniyama-Shimura theorem was proved, people could not see the whole picture of the theorem's value, but they had a rough idea in their minds. This was because a tool to solve the problem had surfaced. This was the historic work by Andrew Wiles.

As for Goldbach's conjecture, whether it was the large sieve method or circle method, it was the same.

The work of the predecessors built the foundation. However, whether it was Chen's theorem or the proof of the Goldbach's conjecture under odd conditions, they were all one step off. The meaning of Chen's theorem was more to let other mathematicians know that the road of the large sieve method had ended and that there was nowhere else to go.

The circle method was the same.

This was why last year, Helfgott said that "to fully prove Goldbach's conjecture, we have a long way to go". He expressed that there was no hope solving Goldbach's conjecture anytime in the near future.

At least, no hope toward the circle method.

Lu Zhou could not help but agree that both of these methods were at a dead end.

He had also faced similar problems when studying the twin prime conjecture.

Zhang Yitang's research selected a clever lambda function, which limited the space of prime pairs to 70 million. The successor reduced this number to 246. However, they could not go any further.

Lu Zhou's initial thought process was also to use a lambda function. However, after countless attempts, he discovered that this road was a dead end.

There were too many lambda function forms to choose from. He could not find the right one no matter how hard he tried.

Until finally, he was inspired. He tried a very different proof of the conjecture and introduced a topology method. This paved a new road.

Although this method was first mentioned in the 1995 thesis by Professor Zellberg who was tackling Goldbach's conjecture, it was Lu Zhou that introduced it to the problem of prime numbers.

Lu Zhou then built on his own knowledge of group theory and pushed the prime number finite distances to infinity. This solved the Polignac's conjecture. The topology sieve method had been transformed twice, and completely unrecognizable from its original form.

Therefore, Lu Zhou gave his weapon a new name, "Group Structure Method".

However, when he was studying the Goldbach's conjecture, he habitually forgot about his own tools.

On the surface, it seemed that the Group Structure Method was unrelated to Goldbach's conjecture. However, the intention of the sieve method was to solve Goldbach's conjecture.

As long as he improved on it, he could use this tool to solve Goldbach's conjecture.

When a mathematical method was continually perfected, it would transform from a toothpick to a Swiss army knife. It would gradually evolve into a theoretical framework! The theoretical framework for number theory!

This was just like the "Cosmic Teichmüller Theory" created in the study of the ABC conjecture.

Whether it was to develop new methods and then prove the value of the methods or to develop methods while studying the problem, both paths were valid.

Lu Zhou saw hope in Goldbach's conjecture.

...

Lu Zhou walked out of the food club. However, he did not go to the library. Instead, he went to the Princeton Institute for Advanced Study.
Although he did not make an appointment, Professor Deligne had said that every evening from 6 p.m to 8 p.m. was office hours.
Lu Zhou knocked on the door before he walked in.
Professor Deligne stopped writing and looked at Lu Zhou. He asked in a relaxed tone, "You've made a decision?"
Lu Zhou nodded, "Yes, I plan on doing my own research I apologize but I can't extract any energy to join your research."
Deligne nodded and did not show signs of dissatisfaction.
Deligne was a person that respected freedom. That was why he allowed Lu Zhou to make his own decision.
Deligne, "I respect your decision. But as your supervisor, I have to know what your research is about?"
Lu Zhou answered, "Goldbach's conjecture."
Deligne nodded. He was not as surprised as Molina. His facial expression was calm.
Maybe
Deligne thinks that I am the "best candidate" to solve this conjecture?
Thanks for the compliment.

Lu Zhou felt a little proud.
Deligne, "The Goldbach's conjecture is an interesting problem, I also studied it when I was young. However, I didn't dive deep into the problem, so I can't give you much help. Right now the closest research results are Chen's theorem and Helfgott's proof of the weak conjecture. I look forward to your new research"
" Of course, other than your own research, there are also some things on my side you have to do. Like teaching assistant work."
Lu Zhou nodded, "No problem I'm confident in my teaching abilities on number theory and functional analysis."
"I believe in your abilities in number theory. In fact, you are overqualified Also, I prepared a gift for you."
Deligne pulled out the drawer and took out a certificate looking thing. He then placed it on the table and smiled.
"I heard that your family conditions aren't good. I helped you solve the problem of your student aid. Take this thing to the finance office, and sort out your tuition fees." Chapter 229
Everyone else pays an insane amount to study overseas while I earn money for studying overseas.
This feeling is quite special.

After completing his bank errands, Lu Zhou gradually got used to life at Princeton.

For undergraduate students, the academic pressure was high. But for PhD student, it was a lot more relaxed. Especially if the supervisor did not urge you.

Although Professor Deligne arranged teaching tasks for Lu Zhou, Lu Zhou's first class was in April which was still a month away. Lu Zhou even found the time to get his driver's license.

Other than studying Goldbach's conjecture, his mission was mainly to studying algebraic geometry.

What made Lu Zhou so ecstatic was that Deligne had the original drafts of Grothendieck's work: Esquisse d'un Programme. These works were translated into English by a French student.

Many of Grothendieck's Esquisse d'un Programme were still not fully understood until this day.

Lu Zhou had never been to France to seek out Grothendieck's work on modern algebraic geometry. First of all, he did not understand French. Second, he had not studied Grothendieck's work in depth.

The English translation of Esquisse d'un Programme was a huge help to Lu Zhou. Coupled with personal guidance from Professor Deligne, it made things much easier to understand.

Sure enough, a good supervisor could save a lot of time.

Other than studying algebraic geometry under Professor Deligne's guidance, Lu Zhou spent all of his free time on Goldbach's conjecture.

There was one time where he was suddenly inspired and he did not leave his room for days. He locked himself in his tiny bedroom and started to think about how to invent the perfect theoretical framework as well as how to reinvent Group Structure Method to solve Goldbach's conjecture.

As a result, he even missed a class that he was supposed to teach at.

Due to this, Professor Deligne called him and asked him what was going on.

However, after Professor Deligne learned that Lu Zhou was not playing around in NYC or Philadelphia, and was researching Goldbach's conjecture instead, he did not say anything about Lu Zhou's absence.

"Researching mathematics needs hard work, but that doesn't mean you should close yourself off. If you feel like your research has reached a bottleneck, I recommend you take a short break. Go play some football or watch a movie... You need to actively find inspiration instead of waiting for inspiration to find you."

Lu Zhou, "I'll take your advice into consideration... Also, can I take a vacation?"

Deligne, "How long?"

Lu Zhou said, "Two weeks."

Deligne, "There's no need to ask me. You can manage your own time. If after a year you still haven't made any progress, I'll assign you another task to work on. You only have a few golden years of mathematics research, so there's no need to waste more than one year on just one question."

After that, the old professor hung up.

Lu Zhou put down the phone and smiled as he twisted the pen in his hand.

I only have one year?

Although Professor Deligne did not say it out loud, he did not think that Lu Zhou could complete this task.

However, this also meant that the professor cared about Lu Zhou. If it was anyone else, Lu Zhou could go become an actor instead and the professor would not give a sh*t.

"I can't waste any more time," said Lu Zhou as he shook his head. He picked up the pen that he dropped and started to write calculations on the draft paper.

Although he said that he could not waste any more time, wasting time was a habit of his.
However, Lu Zhou did not think that there was anything wrong with his habit.
In the world of mathematics, there were multiple types of mathematicians. Some were like Chen Jingrun who was so introverted he would not accept any prizes, or like Kolmogorov, who loved boxing and the outdoors.
Lu Zhou felt that he was not an introverted researcher as he would listen to lectures when he had to. However, most of the time, he preferred to be a lone researcher.
A few days passed by.
It was a bright Saturday morning with blue skies.
Lu Zhou did not know how he fell asleep on his desk. He woke up and stretched his stiff body.
"Maybe I should hire a maid"
I wonder how the robotic maids in Silicon Valley are.
Lu Zhou could theoretically give Xiao Ai a robot body. Maybe then his artificial retardation could finally be useful.
Like, take out the trash or something.
He did not have high hopes for more complicated tasks.

Lu Zhou rubbed his head and looked at the dozens of draft papers spread across the table. He picked out a few, crumpled them into balls, and threw them in the trash.

He felt a bit hungry, so he got up and walked to the kitchen.

He took out some bacon slices and vegetables from the fridge. After poaching the bacon, he took out two pieces of bread and placed them in the toaster.

Unfortunately, cooking was uncommon in America. Occasionally, they would have a barbecue party outdoors. Since Lu Zhou's small kitchen did not have a stove, he could not put his cooking skills to use.

Lu Zhou asked the apartment manager if he could install a stove but he was given a strange look and was refused.

However, it made sense. His apartment building was more than 90 years old. There had been many famous scholars that lived there. Even Einstein's house was nearby.

If he accidentally caused a fire, it would be a great loss.

Lu Zhou understood the apartment manager's decision.

Anyway, he mainly ate at the food club. He would only cook breakfast at home.

After he finished eating, Lu Zhou poured himself a cup of coffee. He stood next to the refrigerator and stared at the ticking clock while he sorted out his mind.

Suddenly, Luo Wenxuan called him.

"Hey, didn't you say that we're looking for cars today? I'm at the school gate, when do you want to leave? Don't tell me you're still in bed?"

Lu Zhou realized that he locked himself in his room for too long.

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Lu Zhou thought that he could get a discount, but that did not seem possible anymore.

Luo Wenxuan coughed and asked, "What type of car do you like? I can recommend something for you. The cars here are pretty cheap, especially with discounts. High-end cars are only \$60,000 USD or so. I recommend a Porsche..."

When Lu Zhou heard him, he shook his head, "I can't use my prize money on a car. I only need one that drives. Is there anything cheaper?"

Luo Wenxuan said, "Japanese cars and second-hand cars are all very cheap... You can get one for \$3,000 USD. But honestly, I don't think you should get them unless you want to spend money on repairs."

Lu Zhou said, "I don't want that..."

Although he did not want to spend too much money on the car, he would not risk his safety for a cheaper car.

He took into account that since he was still a new driver, it would be better if he could get a safer car.

Lu Zhou walked around and his eyes soon landed on a bulky, rough figure.

After that, his eyes kept staring.

Luo Wenxuan looked in the same direction and was stunned.

"Ford Explorer SUV. Turbocharged 4 cylinder, 2.3T, medium-sized off-road vehicle... Don't tell me you're buying this?"

Lu Zhou immediately asked, "How much is it?"
"Around thirty grand. But I don't recommend it. Thirty grand can get you a Chevrolet Camaro. You can even buy a Cayenne with another 20 grand. And" Luo Wenxuan paused.
Lu Zhou asked, "And what?"
Luo Wenxuan was embarrassed to say, "Nothing, I just don't think it fits your style"
Lu Zhou: ""
F*ck sake!
What do you mean it doesn't fit my style!
In what way?
In the end, Lu Zhou insisted on his own choice and bought this bulky SUV.
The total costs were \$31,117 USD.
After paying the full amount, Lu Zhou took the car keys from the dealer's hand. He excitedly pulled Luo Wenxuan into the car and started driving it.
Lu Zhou already got his New Jersey driver's license a long time ago. He was now officially a real driver.
After driving around for a bit, Lu Zhou stopped in a parking lot to let Luo Wenxuan out.
When Lu Zhou got off the car, he said, "Thanks for the help today! You can go back to Princeton if you want. I still have some stuff to do."

Luo Wenxuan asked, "Are you fine driving by yourself?"
Lu Zhou smiled and said, "I remember the way. Anyway, I have a GPS."
Luo Wenxuan said, "Okay then, see ya."
Lu Zhou, "Yeah, see ya. I'll buy you dinner sometime."
Luo Wenxuan said, "There's no need for that. Just introduce me to some pretty ladies from the University of Pennsylvania." He then got in his car and drove away.
Lu Zhou looked at his taillights and shook his head.
This guy is smart.
He actually guessed where I'm going.
But, he definitely has the wrong idea.
When Lu Zhou first arrived in Philadelphia, he promised Chen Yushan to take her to dinner.
Now that he had his license and car, he had no excuse to not meet up with her.
Lu Zhou used his GPS to drive to the Wharton school dorms. Once he found a spot to park, he called Chen Yushan.

"Little brother, you finally gave me a call." Lu Zhou did not know why she sounded a little resentful. Lu Zhou pretended like he did not notice as he asked, "Where are you? I'm already at Wharton's dorm entrance... But I don't know if you live here." "What? You're at the University of Pennsylvania?" said Chen Yushan with a tone of surprise. She then asked, "Look outside. Is there a Blue Island coffee shop nearby?" Lu Zhou looked outside his car window and said, "I think so." "Yeah, I'm here. Just wait a bit, I'll come right away!" Chen Yushan hung up the phone. She said right away, but Lu Zhou waited for a while in the car. He was about to fall asleep when he finally saw a familiar figure walked out of the dorm entrance. It was now March so the weather had eased up a lot. Lu Zhou saw that Chen Yushan was wearing a slanted shoulder dress and she looked a lot more youthful than when he first arrived in Philadelphia. Especially her bangs, it made Lu Zhou felt like it was two years ago when he first saw her all dressed up at the cafeteria. Chen Yushan opened the door and sat shotgun. She then looked around curiously. "You bought a car?" Lu Zhou, "Yeah, I just bought it. Where should we eat?"

Chen Yushan put her hand out and said, "I know a good restaurant nearby. Give me your phone, I'll GPS route it for you."
They were going to a nearby Italian restaurant.
Lu Zhou parked the car in a parking lot near the restaurant and walked in with Chen Yushan.
The two got a table and ordered the food.
Once the food arrived, they started to chat while eating.
After all, they were comrades who used to sit together in the library. Now that they met across the Pacific Ocean, naturally they would have a lot of things to talk about.
"You must be busy."
Lu Zhou nodded, "Yeah, pretty busy. I've been researching Goldbach's conjecture recently, but haven't made much progress."
Chen Yushan looked at Lu Zhou with worship and said, "You're insane"
Although she did not do research on mathematics, she obviously knew about Goldbach's conjecture.
Lu Zhou was embarrassed. He smiled and changed the subject.
"It's okay How about you?"

"Me? I'm pretty busy as well," said Chen Yushan as she played with her straw. She then sighed and said, "My supervisor has a Walmart project. It's about the management and training program for senior employees in the India Branch. I need to read 20 pages of research every day and write a report every week. They're working me to the bone." Chen Yushan playfully stuck her tongue out. She was cute, just like a little puppy... Although it could be misunderstood. Lu Zhou put away his dirty thoughts and said, "Walmart project? Your supervisor must be a big name." Of course, he was really thinking about the money involved in helping a major corporation. "It's okay, not as impressive as you, Mr. Mathematician," said Chen Yushan as she looked at Lu Zhou with a smile. She then changed the subject, "Speaking of which, why did you buy an SUV?" "I don't know? I just like it. It's big, rough, resistant, Se... Secure." said Lu Zhou. He coughed and said, "It fits men like me." Close! I nearly said S*xy, thank god I reacted in time. He did not know why, but his friend started to laugh. "Pfft..." Lu Zhou was confused, "What?" Chen Yushan laughed and slapped her thigh as she said, "Nothing, little brother... As long as you're happy."

Lu Zhou: ???

Once Chen Yushan finished laughing, she looked at him and teased, "Also, by the way, I think you're more of the Mini Cooper type They're very popular."
Emmmm
Are you saying I'm sophisticated?
Thanks for the compliment.
Lu Zhou smiled as well as he did not know what else to say.