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# The sleeping Adonis

Mai opened her eyes wider and then let it come back to normal when she saw the boy sitting in the armchair. Only then she knew that she was about to tutor for Parker, a boy who has officially entitled "sleeping Adonis" thanks to Dr. Anderlecht's statistics course.

Yes, that course! It's that **STATISTICS** course that Parker would never forgive! The first time he fell asleep, the professor was giving an example for the class. Dr. Anderlecht utilized his magic to call in some mosquitoes from the field to make the lecture more attractive. Yet, when he looked down, it was a very awkward situation. A male student was sleeping in class. Left hand under his cheek, half-closed eyes (there was some rumor that he even snored)! What made it more awkward is that the girl who sat next to him keep looking at him passionately, as if her eyes are undetachable from him. This probably recalls everyone of sleeping beauty. Therefore, he is known as "*sleeping Adonis*" after this incident. This made the professor a bit mad, but he kept his calm outside. After finishing the example, the professor sent the mosquitoes back to the field, except one was sent directly to that student. And "Aw!", screamed the student after being bitten by a giant mosquito. All the students busted in laughs.

As shameful as it may sound, it was not enough to keep Parker awake in Dr. Anderlecht's course more than two classes. Three classes later, he fell asleep again. This time, instead of sending some bug to bite him, Dr. Anderlecht said very gently in front of the class: "The red hair student who sat behind the one that is sleeping, could you come up here and show everyone how you solve this problem?"

These two stories soon reached Parker's parents' ears. That is why Mai was there, in the living room of Parker's house, being introduced to the student to whom she's going to tutor.

"Hello, my name is Parker! What's your name?" asked Parker, struck by Mai's beauty.

"My name is Mai!" said Mai.

Confused by Mai's reply, Parker asked again: "Oh, I know your name is yours, but what is your name?"

"My name is Mai, M-A-I!"

"Oh, I see! Sorry! I thought you said, "*My name is MINE*!",” replied Parker!

"That's fine, let's get start!" Mai said, in a chill voice. She got used with her name confused with "my, mine" or anything like that! There are more "mistreated" Vietnamese names. Le Hong Truc, for example. "Le" is pretty close to "Lee" in Korean. "Truc" is close to "Truck." So, many people just thought it is read as "Lee Hong Truck"! But who would name their baby girl "a truck"?

"Start what?" amazed Parker.

"The tutoring session!" said Mai. "What does he think I'm here for", she thought.

"Oh! Okay!"

"Suppose that after graduating, you want to find out information about the salaries of a company before applying. However, there are a lot of people in the company. Hence, to save time, you may want to select a random sample that is, to randomly choose some people and ask for their salaries instead. Then, each of the number you got from those people is called an ***observation***, and the collection of all these number is called a ***random sample***. You collect the data like that to study more about the salaries of the people in that company, which is the ***population***." Mai told Parker.

"Why does it have to be random?" Parker asked.

To which, Mai replied. "If you ask people of the same group or similar characteristics, they probably get comparable salaries. The salaries of the head are much higher than the staff, ..."

"But if you just select a random sample like that, you will lose some precision," Parker said.

"Yes, but I want to save my time. And I believe that the amount of precision that I lost is acceptable. If you want to get the salary of everyone, it's just like you taste the whole pot of soup in order to know if you've put in enough salt yet, leaving your family nothing!" Mai explained.

"Ok! I'm not such a foody". Parker yawned.

Feeling annoyed when Parker yawned right at the beginning of the tutoring session, Mai took a provoking example. "Let me give you another example. Suppose that I want to find out the average age of your girlfriends. Instead of asking of the ages of hundreds of girls that you have dated, which would take a lot of time, I can just accept losing some precision, and select some girls randomly and ask for their ages. That would give me a random sample of the ages of the girls, and each of those numbers shall be called an observation. In general, a population is the collection of all individuals or items under consideration in a statistical study. **A sample** is a part of the population from which information is obtained. A **random sample** is a sample where each observation is taken randomly. *The overall thing to which you want to study is a population, and something that is the subset of that overall is a sample*."

Parker smiled.

Mai continued. "Note that the average of all your girlfriend is something I don't know. I call it a parameter. A **parameter** is a numerical description of a characteristic of the population. We don't know exactly what it is. So, we approximate them by using a statistic which is an appropriate estimate that we can obtain from our sample. In this case, an appropriate estimate (a **statistic**) can be the **sample mean**, also called the **sample average**, which is the average of all the ages in the random sample that I collected. Got it?"

Without waiting for Parker to reply, Mai continued,

“So, suppose the sample of ages I collected is

10,18,20,25,30,27,35,52.

Then, I can estimate the population mean, which is the average ages of all your old girl friends, by the samples mean:

.”

Parker chuckled, "Okay! But why do you want to find out the average age of my girlfriends? Do you want to be on that list?"

Mai almost choked. "I would never want to date with you!"