IIT Madras

ONLINE DEGREE

Here we are with week 3, and I always start with the same example of driving the car. You have been driving the car seamlessly probably right now, you enjoyed the coding experience that we gave you in the second week. People who are already introduced to programming might find it very boring. In fact, we are taking two linear programs and calling them code. This is like, this is unpardonable I would say. But please bear with us, we will get into lines and lines of coding very soon and things are going to get slightly complicated this week onwards in terms of the lines of code that we are going to write.

So, you learnt the if loop from the previous week as I told you if you remember the triangle that you should always remember is that of if, for, and while. We covered if, we will be covering for and while today sounds like as I said English, the, for of, English for you, for the sake of it. I mean the word for there means something else but the word for in Computer Science means entirely different thing.

You will get used to it with time and the word while is while I talk to you, I will sip my cup of coffee. But while in Computer Science means slightly different. I will give you two analogies which will help you understand this week's content really well, to begin with what if I said you keep jogging on the treadmill, until I ask you to stop. You would not know when I will ask you to stop.

I say you keep running until I ask you to stop. This is called the while loop, while I remain silent you continue jogging on the treadmill. The moment I say stop then you stop jogging, while I remain silent you jog, the moment I say stop you stop. This is a typical example for while loop in layman's language. It is as simple as this. So commonsensical as this. In fact, the moment you write it on editor it gets a little complicated but it is, it is simply this.

Coming to the for loop, the third part of the triangle I keep talking about the if, the while, now the for. The same example of treadmill if I say, keep jogging, count your steps, stop after 1000 steps. So, what I am trying to say is jog 1 step and keep counting, then 2 steps keep counting and, then 3

steps keep counting and then 4 steps keep counting and then 5 steps up to 1000 steps and then you will stop.

You may be wondering why would I do something as silly and stupid as this, you may not do it. But your tracker that you wear on your hand, your smartwatch does it or sometimes even your cellphone has the ability to track your steps. It keeps tracking, the moment you finish one kilometer it says one kilometer up good going which means something is counting behind.

After couple of kilometers, it says your goal reached, you may please stop. That is a typical example of a for loop, although this in no way helps you understand what is a for loop of python. So let us get inside our third week's content and get going with these two parts of the triangle, the for and the while statement.