

INTRODUCTION TO LOOPS

Observe what i am going to do now, i am going to say print hi how are you ok? And i am going to type this many times, hi how are you ahh i am going to just copy pasting this so let me copy this and then paste this. You all know what is copy pasting right? ok you all have studied ms word note pad and things like that in fact even on your on your cell phones these days you have copy paste facility ok so i can as many times i want so you see i have type this ten times now when i run this code its says hi how are you, hi how are you ten times ah what if i wants this to be displayed hundred times? Remember we discussed something similar to this on scratch right? You recollected right? We introduced you to what is called the looping structures, How to repeat a task many times, how to instruct the computer to repeat a task many times? I am gonna do that right now just observe this ten time if i were to do this hundred times i must copy paste this hundred times that's a very tds task so python has a nice way to do this. Let me show you how it's done. For i in range ten what does it mean? Don't worry i will tell you print hi how is everything Or may be i should comma here i should precise ok good hi, how is everything and i question mark here, my English is bad, ok so for i range ten print Hi, how is everything? What does this do? This sounds again very weird remember the if statement we wrote something and then we put a colon here right similarly we write for i in range ten print hi, how is everything? There with my speed don't worry let's see what happens when we execute this and then i explain what exactly this is doing ok? So wow see what happened it was so fast you people didn't probably observe it. Hi how are you is how i typed it ten times but here hi how is everything? Is displayed ten times how did this happen? Let's observe. So i is a variable by now you all know what is a variable you have done it in scratch we have been talking about it in python so i becomes a variable in range ten means this in English this statement means create a variable i range ten means start assigning the values zero one two three four five six seven eight nine to i. I repeat for i in range ten means assign zero to i come execute this statement, assign one to i come execute this statement ok assign two to i come execute this statement, three to i execute this statement and so on right? Perfect. So i varies from zero to nine and hi, how is everything? Is displayed ten times. Confusing? Don't worry as and always practice makes a person perfect let's practice more of this forward. For let me remove this delete for i in range five print i now this will teach you how for loops works. Ok, let me run this, what is happening? Zero one two three four i variable takes the value zero one two three four, whatever you put here it's starts from zero and comes five numbers ad one at a time is assign to i. And then that particular value of i gets printed here this is zero one two three four so where to say ten here you guessed it right, it will say zero one two three four five six seven eight nine if i say look at this print hi you are in number let say close it comma hi what does it do? Let's see. huh ah you are in number zero, you are in number one, you are in number two, you are in number three, you are in number four and so on right? Perfect. This makes it very clear to you what we are doing. Ok, let me display the multiples of two, how do i do that? I will delete everything let me start from beginning. For i in range ten colon and then you should put a tab here i should come here and tab is because you cannot start from here, you should always start from here. Ok. So

let me type print i will simply say i into two, you know what this does? This will simply display your two tables. Let me click this then and observe what happens here. Run and boom! Zero two four six eight ten twelve fourteen sixteen eighteen but we knew two tables till twenty that's because i in range ten means zero one two three four five six seven eight nine. The last number will be nine, so nine times two will be eighteen that's why it is stopping at eighteen, if you want it to stop at twenty you should remove this and put eleven here and now look at the magic so its starts from zero and goes till twenty. Correct? Ok Perfect. That's about for loops observe them slowly patiently practice a few problems and you lead through. What we will now do is we will go ahead and discuss more of for loops so it will become very familiar to you ok, it is a this point that you must understand everything of what i have said about for loops ok so take a pause observe the video once again if you want, write a few programmes and let us see more of for loops in the forth coming lectures.