

LOOPS: SUM OF NUMBERS

Ok let us now use for loop to do some very basic mathematics, are the reason why am doing this basic math with for loop is to teach you how to use for loop ok? Let me ask you this question. What is one plus two? Off course three. What is one plus two plus three? It is six. One plus two plus three plus four plus five plus six plus seven plus eight plus nine plus ten what is it? It is fifty five. Let me use a for loop to do this ok? To add the first few numbers, why are we doing this? Because we are crazy! Ha ha alright this is a usual question people ask why do you make us do all these things? We have a calculator we can add any numbers we want right? Why are you asking us to do all these things by using some complicated programming. Now the point is do not add these numbers where eventually useless to us right? But to understand how python like programming language can be used to add such numbers up to whatever level right? It is just an exercise problem for you to learn the intricacies of form ok? Let's go ahead and try to write a code for this. Answer is equal to zero. Answer is equal to answer plus one, Answer is equal to answer plus two print answer. What will be the output for this? Let me check. Initially answer will be zero and then answer will become answer plus one, we have discussed this on scratch in detail this sounds like this is the weirdest thing for a beginner programmer right? he will start wondering what do you mean by variable equals variable plus one it doesn't make sense please note this simply means the existing answer what is the value for it ok i am adding one to it and i am adding two to it right? answer equals zero, answer equals answer plus one so answer becomes one and then answer equals answer plus two answer becomes initially it was one it becomes one plus two three so i am printing answer it will be three. A good thing to do is actually print answer in all lines if there with me is the reason teaching you people this, answer and then finally answer ok? Then run it say oh oh oh!! I should not write in quotes you see yeah otherwise it will just display answer correct we have discuss this once again so computers are dumb it will not understand what we are trying to ask them to do so initially answer is zero, answer is zero and then print answer, answer will be zero printed fine, answer equals answer plus one so answer became one and i print the answers so it became one here answer equals answer plus two, answer was one and then i add two to it so it becomes three so answer is displayed as three correct? Now let me go ahead answer equals answer plus three print answer now they should be like zero one three six this is same as adding one plus two plus three you see why? Six that's what is happening here think think think think think think that's the most important part here ok, so answer equals answer plus four print answer what will this be now? This will actually be lets execute and see. zero one three six and ten that's because one plus two plus three plus four is ten, one plus two plus three is six, one plus two is three simply one then nothing zero right? if i keep doing this lets say answer equals answer plus five print answer, answer equals answer plus six print answer, answer equals answer plus seven print answer i am killing time as you can see ok that's because many people wouldn't know how to do these things right? Some of you are very familiar in programming some of you are taking this for the first time right? So it's good to be slow and precise, answer plus nine print answer and finally answer equals answer plus ten and there you are when i execute

this, this should be equivalent to what was that, one plus two plus three correct? , one plus two plus three plus four plus five plus six plus seven plus eight plus nine plus ten that we saw already which is fifty five let's see if we get this number ok? Ready steady go! Let's run this programme and see boom! Zero one three It is up to forty five, it is not showing me fifty five which should be the answer why is that? Can someone tell me because you are calculating answer but you are not printing it so dumb of me correct! So now let me execute it, i will get the last one to fifty five which is the sum of numbers from one two three up to ten i am not happy with this i want the sum of the first hundred numbers, how do i do this? This is where our for loop will come to our rescue let's see how this is done. Look at this answer equals zero perfect for i in range ten answer equals answer plus i now wait very patiently let me not go up to ten let me now only go up to three and see what happens initially i take zero answer is also zero answer gets added zero plus zero is zero and then i takes one answer is zero, zero plus one is one i takes two answer is one plus two which is three so if i execute this it finally display the answer when i execute this i get three here perfect right! All of you take a pause, if you are new to programming this is the place where you should understand these four lines properly, properly ok, i repeat when you execute this, answer gets incremented one by one zero one and two gets added to answer. Right? if i makes this five you see what will happen, answer will be zero and then zero plus one, zero plus two, zero plus three, zero plus four so on and so for i mean zero plus one is one and then it will be one plus two is three, three plus three will be six, six plus four will be ten right? it is going to be the sum of zero plus one plus two plus three plus four because range of five means zero one two three four lot of details learning is always about braking the details in to small chunks and then observing very carefully right? so let me execute this i get ten perfect. It's for you now to neatly understand what is happening here ok pause the video right now understand and then come back.