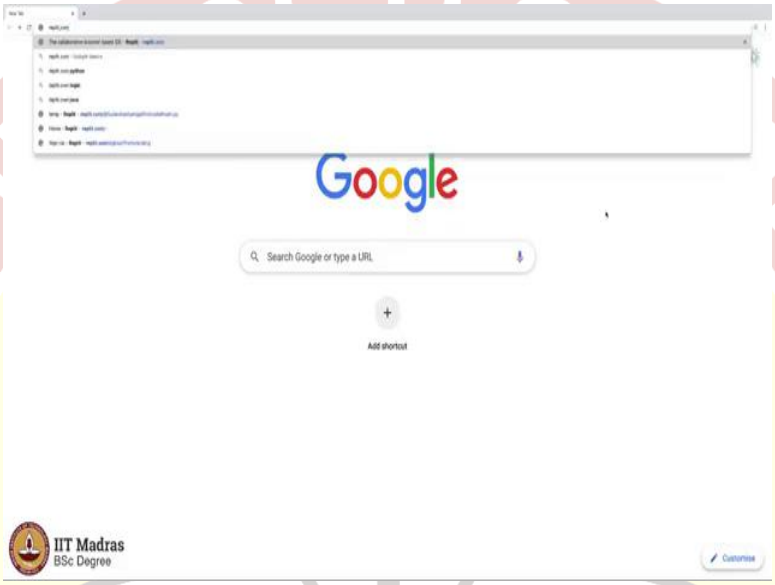
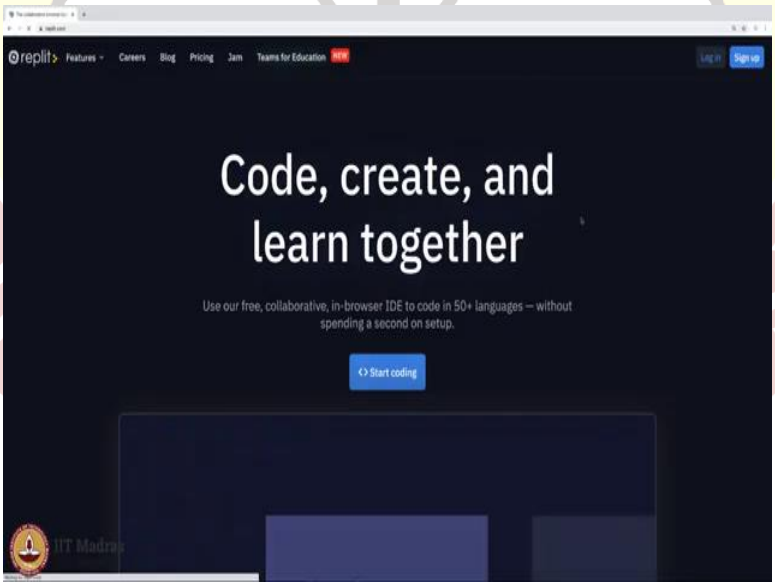
IIT Madras

ONLINE DEGREE

Programming in Python
Professor Sudarshan Iyengar
Department of Computer Science and Engineering
Indian Institute of Technology Ropar
Omkar Joshi
Course Instructor
Indian Institute of Technology Madras Online Degree Program
Introduction to Replit

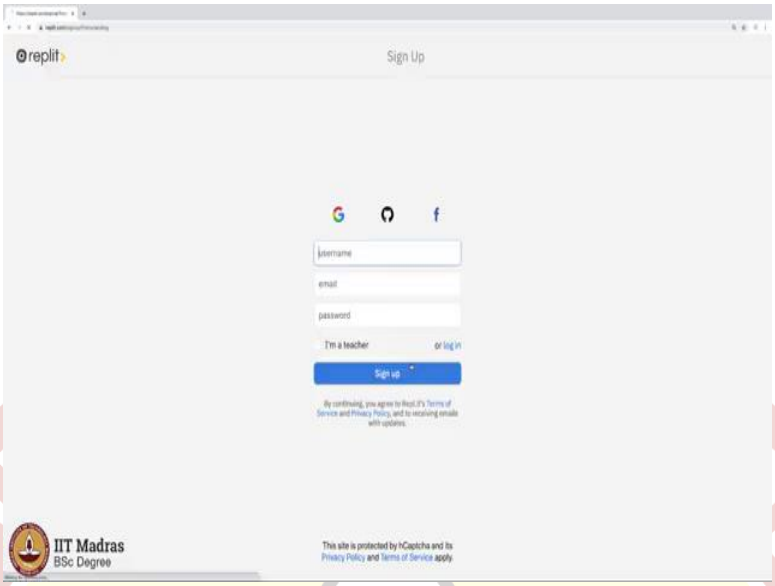
(Refer Slide Time: 0:16)

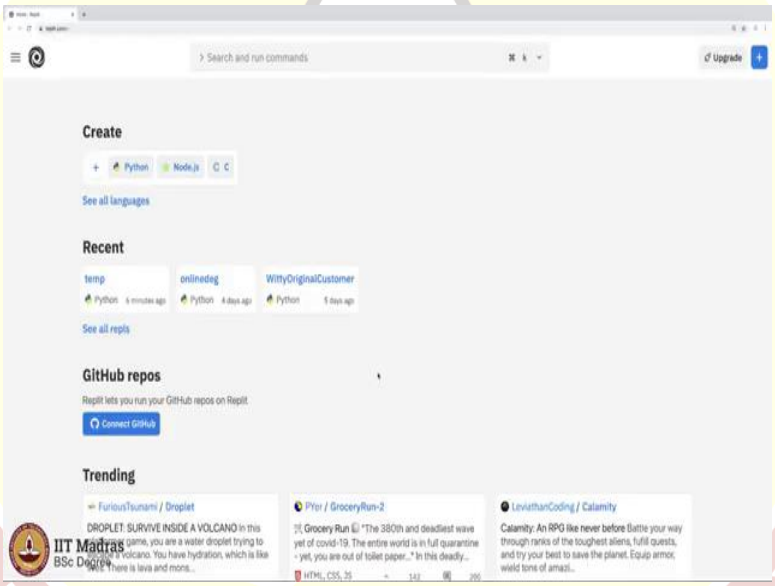


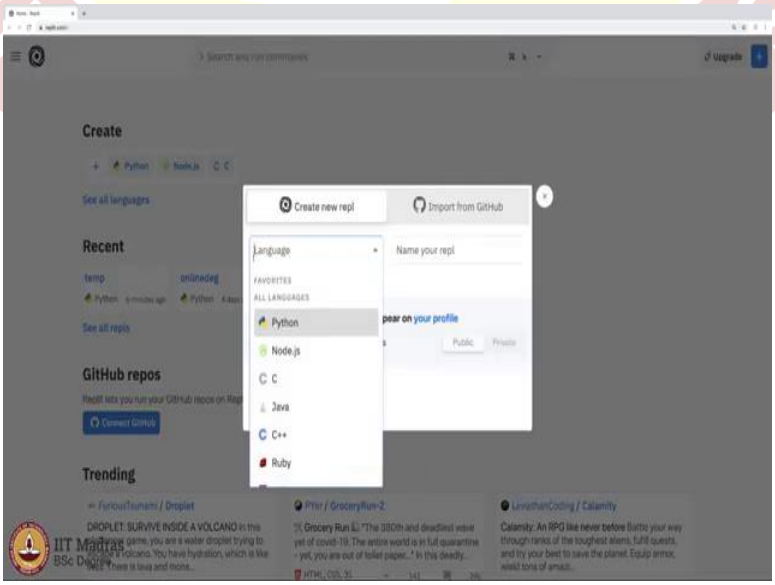


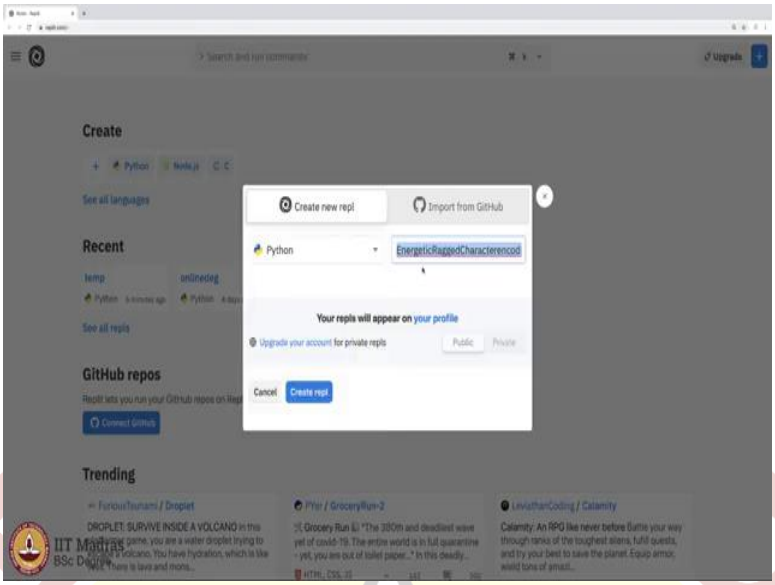
So, let us dive in and write our first program. Programming was not as easy as it is in 2021, thanks to the internet we do not have to install anything before starting to code. So, what do you see? I have now opened my browser, let me just zoom in just so that it is clear to you all and I am typing Replit.com, R-E-P-L-I-T.com.

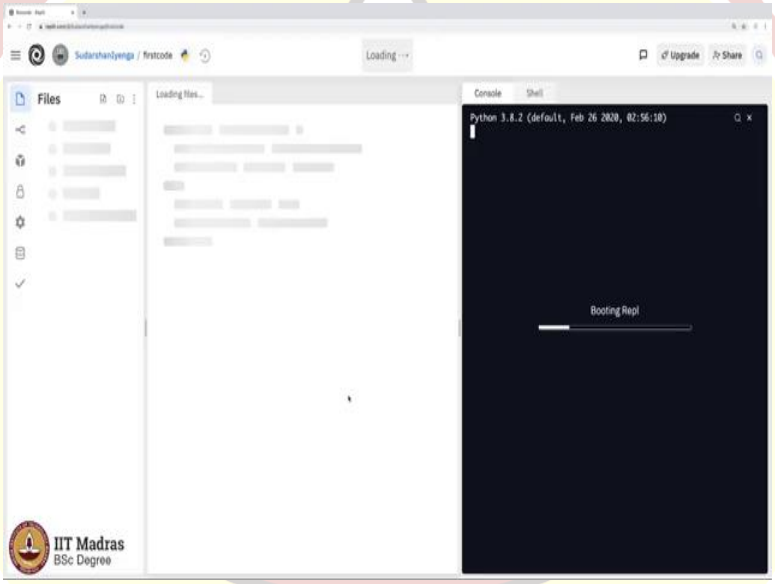
(Refer Slide Time: 0:44)







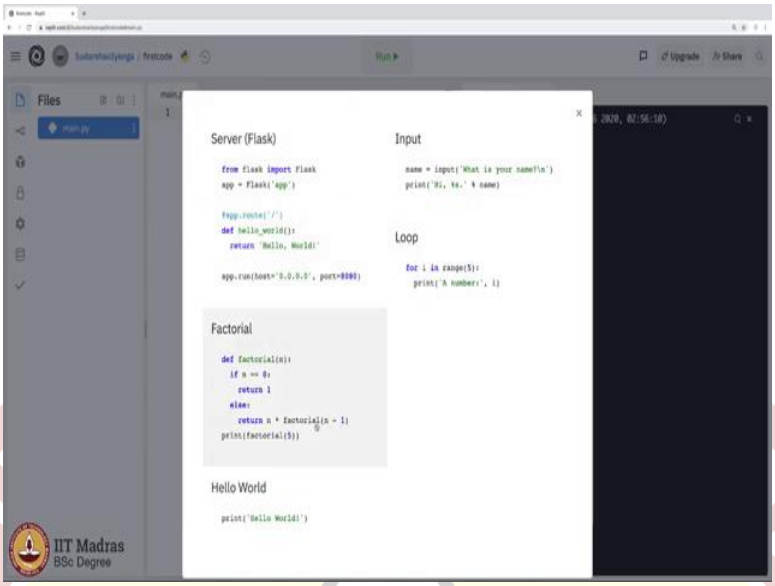


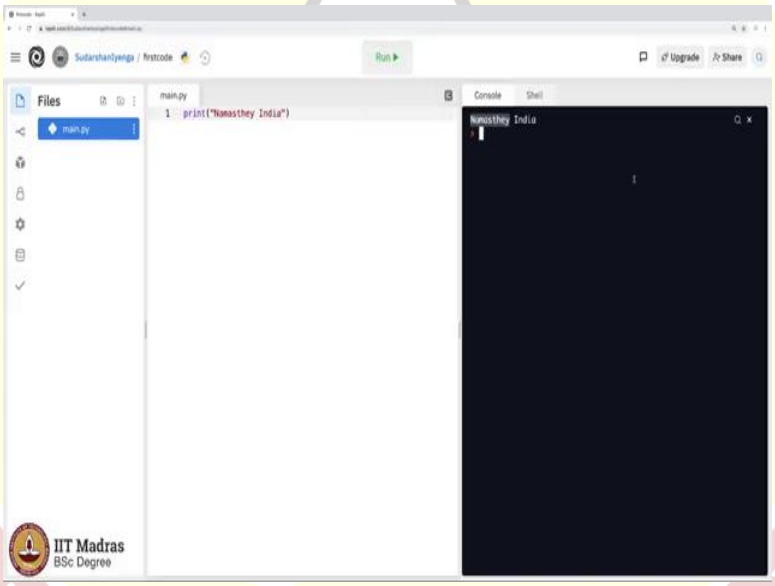


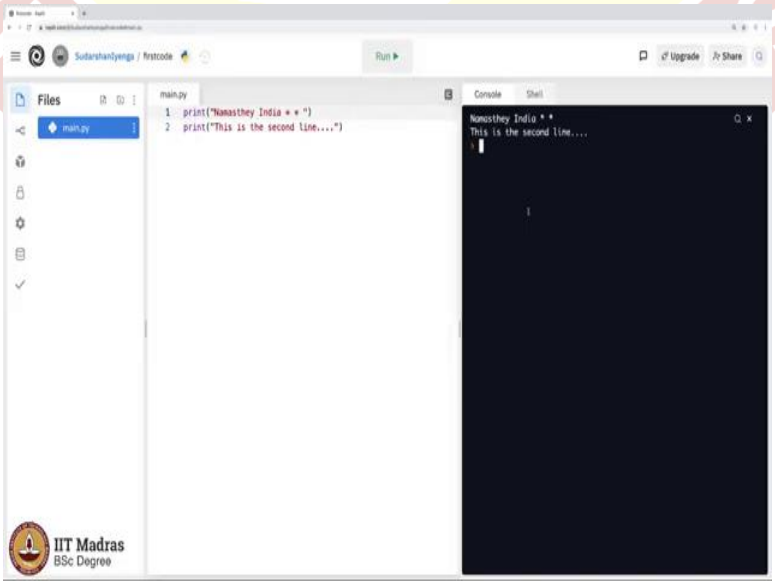
And then you will see this. The moment you see this click on ‘Start coding’ and then it will ask for a user name and password, if you have a Gmail ID, just click on this G and log into your Gmail ID and you will be getting a window like, a screen like this. Go to this plus symbol, click on it, what is the language that you would like to code in, Python obviously, click on Python and then here you will get a name that is machine given.

It is generally a combination of words, random combination of words. So, what I will do is I will remove it and then give it a name ‘first code’ and then create on create R-E-P-L. So, I click on it, this is a repository that gets created. Do not break your head about what is a repository, it is just a place where you can come and code and as you can see, you can in fact, see some examples by clicking here. Let us do that.

(Refer Slide Time: 1:50)





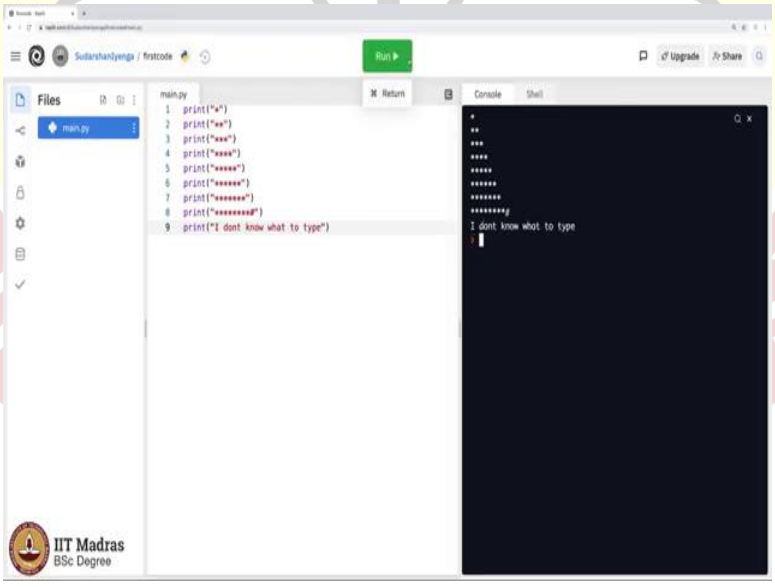


Here are some example codes, but it is a little confusing to see it on your first day of programming. So, let us try coding something from our hands. Let me say print hello, just hello and once I type something here, you will see things are self-explanatory, I will not explain, come here and click on run and you will see 'hello' here. Now, your question would be what just happened?

You say something here and the same word came here. I mean, what is the big deal? What are we into? So, the point is this is the place where you will type your, you can call it commands, and this is the place where your computer will execute them and show you the result of what you have typed here. Just in case you typed, instead of hello you typed Namaste, and then click on run, it will show you Namaste.

If you say 'Namaste India' and then click on run, it will show 'Namaste India', so the nutshell all you do is you type your commands here and you get the output here. You can type more print commands, 'this is the second line' and you will indeed get Namaste India' in the first line and then 'this is the second line'. You can type whatever you want, put dots here or put some special symbols and you will see them here.

(Refer Slide Time: 3:33)



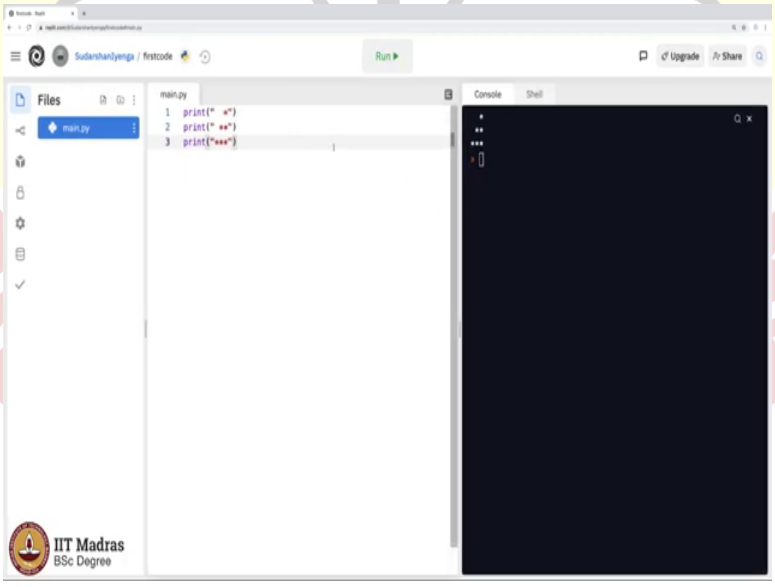
Let us do a small piece of code that is not simply printing some English statements. Let me delete this and simply type one star, see what happens, let me not explain what I am doing, it again should be self-explanatory. So, what am I doing? I type two stars in the second line, three stars in the third line, as I run this I will get this.

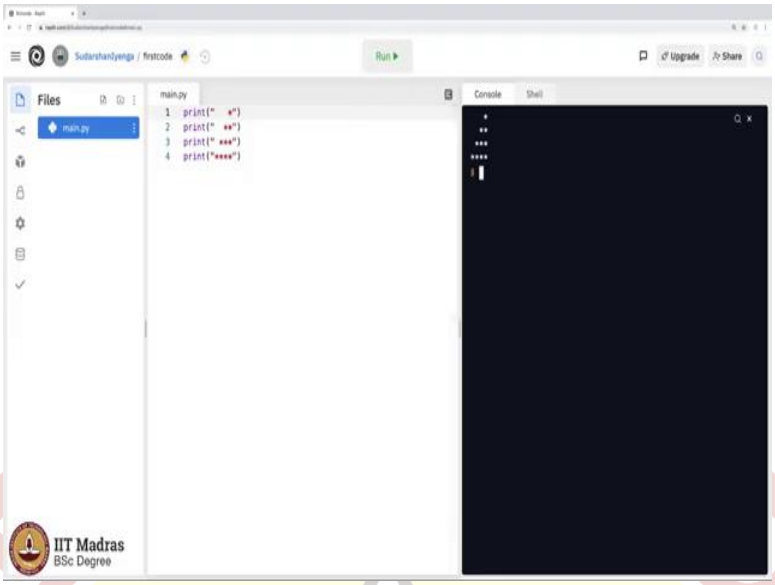
We keep doing this assuming I have a lot of time this evening, I can keep typing, this five lines and then sixth line is six stars, seventh line is seven stars. Then run, you will get precisely what you have typed. It is sort of has a staircase effect as you can see, correct? And let me continue this 8, 9 and 10. Looking at the pattern you see, I should have included 9 stars here, but I have included 2 stars more, making it 10 stars.

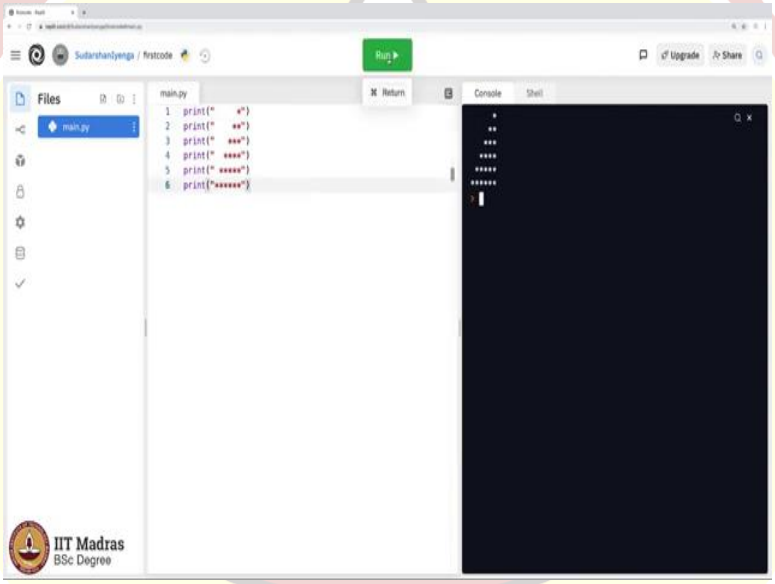
If I run look at this the computer will obviously not know that it should display the 9 stars here and not 10, simply because you have specified 10 stars here. The point to note is that your computer does precisely what you ask your computer to do. If you ask it to display a hash at the end, it will simply display a hash at the end as you can see. Print 'I don't know what to type', then run it, it will simply say, 'I don't know what to type' as simple as that.

So, this is a gentle introduction, a very quick introduction to Python and the simplest way to start typing your code and the simplest code is, of course, your print statement. I just now showed you how you can type something here and execute the same by clicking on run command and the executed code appears on the screen right here. This should be enough to begin with, you can go ahead and try exploring whatever you want to explore.

(Refer Slide Time: 6:00)

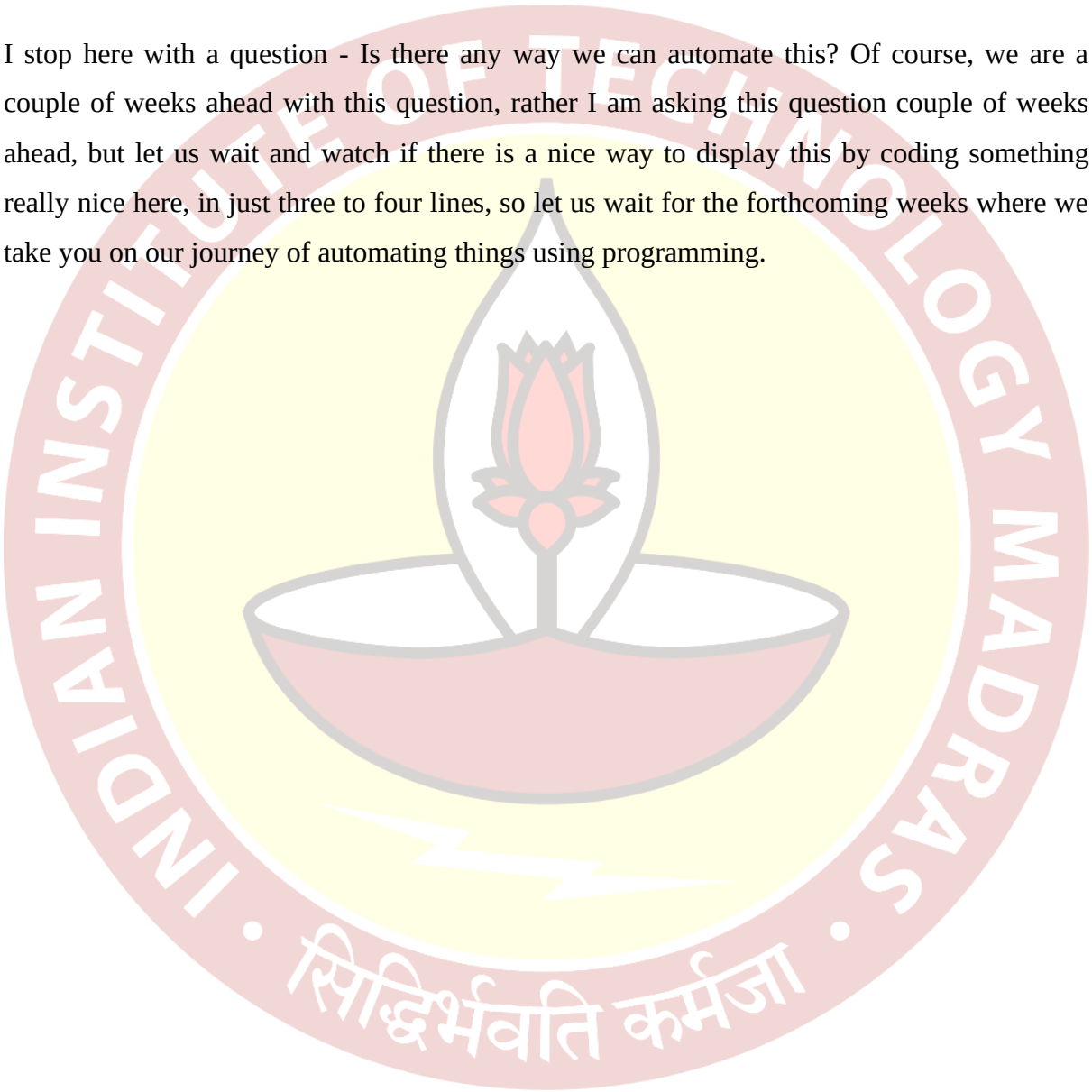






Before I conclude let me try to display this stars in the reverse order. What do I mean by that? three stars, let us say space space star, give me a minute, you will understand what I am trying to do, space star star and star star star. What do you think this will display? Exactly the same thing but in the reverse order. Wonderful! Now, what if I want to display four lines? Understand a small issue here.

I cannot simply put four here. I should put one space extra here, one extra space here and one extra space here, do you see, do you see that I clicked on run and I got the output, a beautiful staircase effect, but in the staircase effect, but in the reverse direction. But do you observe something? It is not as easy as the previous program where you simply typed one star in the first line, two in the second line, three in the third line, fourth in the fourth line, it is a little more involved than that.

To make your life even more difficult, rather I am making my life difficult here, not yours. I am sure when you type start typing your piece of code your life will become difficult as well. You see for five I should again go and push these things by one space run and here I am. And assuming I did that for about 10 lines and the 11th line will involve me going up and then putting space to all the lines above, oh, it is going to be some hard work if you are going to do this for like 20 lines.

I stop here with a question - Is there any way we can automate this? Of course, we are a couple of weeks ahead with this question, rather I am asking this question couple of weeks ahead, but let us wait and watch if there is a nice way to display this by coding something really nice here, in just three to four lines, so let us wait for the forthcoming weeks where we take you on our journey of automating things using programming.