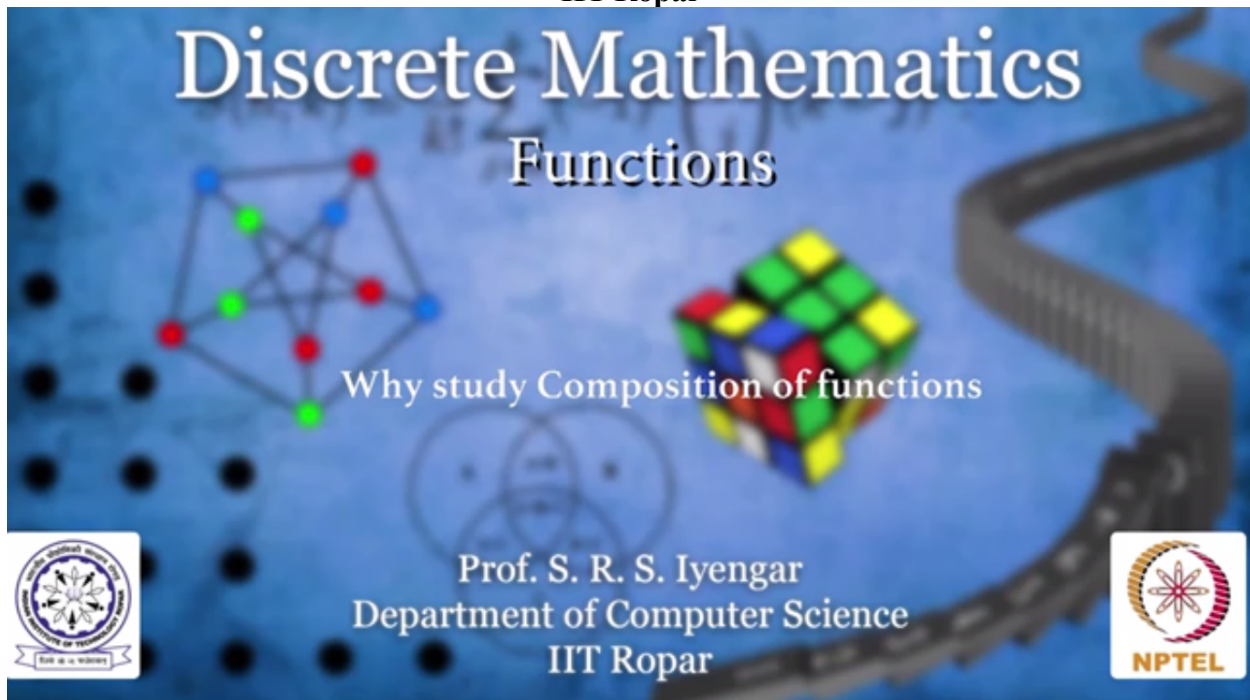


**NPTEL  
NPTEL ONLINE COURSE**

**Discrete Mathematics  
Functions**

**Why study Composition of functions**

**Prof. S. R. S. Iyengar  
Department of Computer Science  
IIT Ropar**



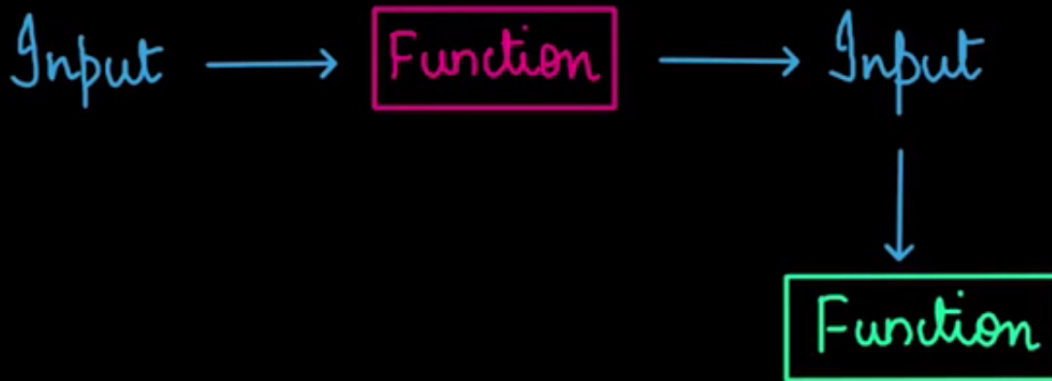
Why would a computer scientist care about a concept like function composition? That is because you see firstly, why functions? Function, a function is basically something that takes as an input and gives you an output. Correct?



So although mathematically, we define  $f$  as a function from domain  $X$  to a co-domain  $Y$ , this is like a precise way of stating it, in computers we define functions, some function that takes as input something; it can even take many inputs and it gives out an output. It may even give many outputs by the way. Okay.

If you are into programming, you will follow what I am saying. If you're not into programming yet, don't worry very much. You will soon realize what functions are in your curriculum. Okay. So a function takes an input and gives an output.

Now sometimes output of a function will be an input of some other function.



**IIT Madras Production**

Founded by  
Department of Higher Education  
Ministry of Human Resource Development  
Government of India

[www.nptel.iitm.ac.in](http://www.nptel.iitm.ac.in)

Copyright Reserved