

## Substitution Cipher

### The science of secrecy 02

The professor just now explained a method to share your messages secretly, so let me try to show you how can you share your messages in a secret way. Hello every one before we start doing the programme for substitution cipher i would like to explain the concept in python name string. First of all what is a string? String is used to represent text in python; text may comprise of spaces, numbers and even alphabets. So how can you use string here, for that first of all you need to import a library called string. Now take a variable named x and i would initialised it to a string for example it is hello world, please note the fact that every time you initialise a string you have to close the string in double quotes, you have to close a string in double quotes. So here we have the string called "hello world" and if you want to excess a particular alphabet in the string x, what you can do here is, you can excess the particular alphabet in "hello world" by giving it a particular number. For example if i want to excess H in "hello world" i would write print x of zero as you know the indexing start from zero in arrays as well as in strings so if i want to excess the alphabet H in "hello world" what will start from zero so H is at zeroth position so i would write print x of zero, so here we have h and for example if i want to excess the alphabet 'O' here, O has two occurrences so if i want to excess the alphabet O in the first position that is, how can you do it? H is at zeroth position, e is at first position, n is at second, second l is at third position and that O is at fourth position, since O is at fourth position i will write x of four and now let us see what is the output, here we have O so this is how you can excess the alphabets at particular position in a string ok. There are many other functions available in string for example if i want to excess the alphabets from second position to fifth position, how can you do that? You can actually do it in one go without even using for loop or any kind of loop so i will just say x of two colon five and i will just print, it prints llo, this is how you can excess the alphabets in particular range of positions ok now if i want to know if i want to get the length of the string so for that you have a function what you need to do is, you will write Len and then Len and in bracket write the name of the string, here we have x so we will write x so let us print it so it is eleven, you can clearly see that the length of string x is eleven, now if i want to convert the string in upper case there is straight away a function available in python what you can do here is, you just write the name of the string that is x and then dot and then you have to write upper, upper is a function available in python used to convert the available string in upper case so now let us see what is the output, for that we should print it, print x dot upper yes it converts the string or string "hello world" to upper world to upper case. So we are done with the strings now there is one more function available in python in fact there are many more functions but here i would like to explain you one more for example in "hello world" if i want to replace one alphabet by some other alphabet how can you do that? I will just write x dot replace for example i have to replace h with the j so i will just write, replace h in double quotes comma then j in double quotes so now the output is "jello world" instead of hello world so this is

about strings in python now we will do the programme for substitution cipher and will use strings there.