



# Control Structures

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## — ASSIGNMENT —



## Control Structures

### Statements (if, elif, else and nested if)

- Write a program that asks users to enter their age. If they are old enough to vote the program asks them to *collect their polling card*. However, if they are not old enough to vote the program tells them that they *are too young to vote*. You must be 18 years of age or older to vote.
- Individuals who are 65 or over can apply for a concessionary travel card. Write a computer program that asks the user for their age and if they are not old enough then the following string is displayed:  
*Sorry you are not old enough to apply for a concessionary travel card.*  
However, if they are old enough the following string is displayed:  
*You may apply for the concessionary travel card.*
- For each of the following **workout through reading the code** the output of each program i.e. do not just execute the program and observe the output.

<pre>x = 7 y = 4 z = x + y if z &lt; 10:     z = z + x     z = z - y else:     if z &gt; 10:         x = z + 2         z = x + y</pre>	<pre>print(z) ----- x = 7 y = 4 z = x + y if z &lt; 10:     z = z + x     z = z - y else:     if z == 10:</pre>	<pre>x = z + 2 z = x + y print(z) ----- x = 3 y = 4 z = x + y if z &lt; 10:     z = z + x     z = z - y else:     if z == 10:</pre>	<pre>x = z + 2 z = x + y print(z) ----- x = 3 y = 4 z = x + y if z &lt; 10:     if z == 7:         x = z + 3         z = x * y     else:         z = z * 2 print(z)</pre>
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- Write a python program to find the greater of two numbers.
- Write a python program to find the greatest of three numbers.
- Write a python program to check if the given number is positive or negative.

## Loops

**Note : Perform the exercise given below with both for loop and while loop.**

1. Write a python program to print the first 20 integers.
2. Write a python program to print the reverse counting from 100 to 1.
3. Write a python program to print the sum of 1<sup>st</sup> 20 integers.
4. Write a python program to check if the number is an even number or odd.
5. Write a python program to print 1<sup>st</sup> 10 even numbers.
6. Write a python program to print 1<sup>st</sup> 10 odd numbers.
7. Write a python program to print the sum of 1<sup>st</sup> 20 even numbers.
8. Write a python program to print the sum of 1<sup>st</sup> 20 odd numbers.
9. Write a python program to print the multiplication table of a number in the format given below:  
$$2*1=2$$
$$2*2=4$$
10. Write a python program to find those numbers which are divisible by 7 and multiple of 5, between 1000 and 2500 (both included).
11. Write a python program to count the number of digits in a number.
12. Write a python program to print the reverse of a number.
13. Write a python program to check if the number is a palindrome or not.
14. Write a python program to check if the number is an amstrong number or not.
15. Write a python program to calculate the cube of all the numbers from 1 to a given number.
16. Write a python program to calculate the factorial of a given number.