

Chapter - 23 Control flow Input and Print functions

Lesson Objective

- Types of Control flow
- If statement

Skills to be attained : Knowing the variables, values and data types used in a program

Tools / Websites / Resources :

1. <https://www.onlinegdb.com/>
2. gedit text editor in Hitech lab

Teacher Led Instruction

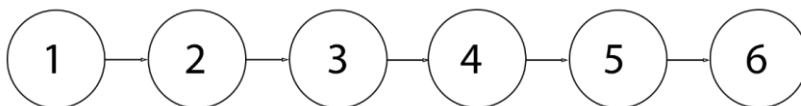
What is Control flow ?

Control flow is the sequence in which a program runs actions. There are three main types of control flow.

1. Sequential flow (execution of statements one after another)
2. Branching flow (conditional execution using if/else statements)
3. Looping flow (repeated execution using for/while loops)

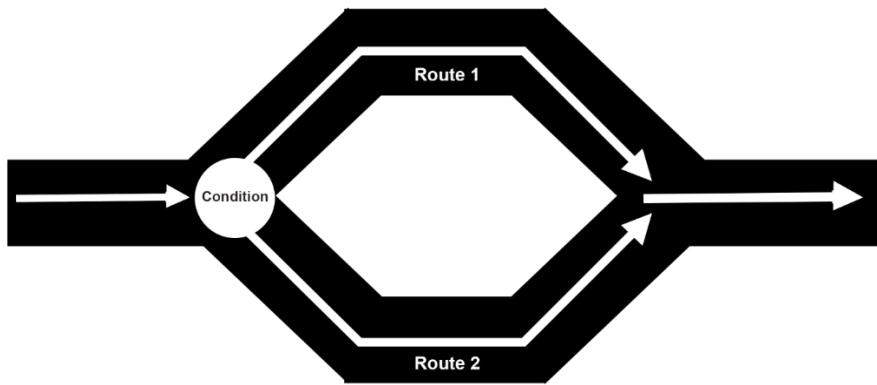
Sequential flow

Doing tasks one after another. The process flows one by one continuously.



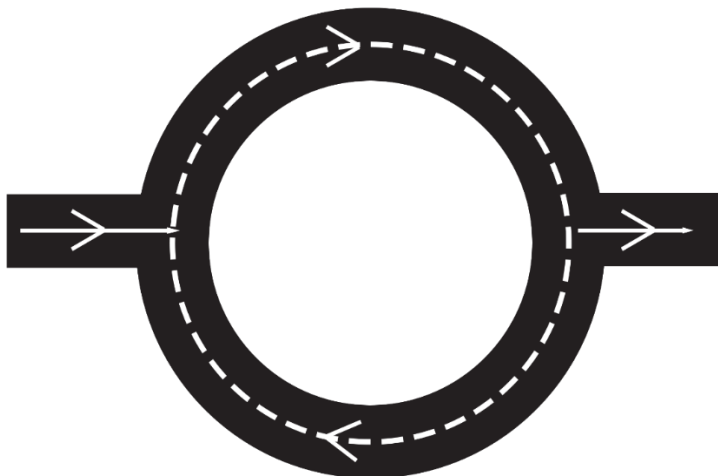
Branching flow

In branching flow, Depending on the condition, the execution flow will follow either Route 1 or Route 2.



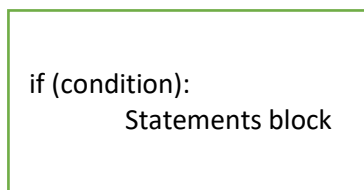
Looping flow

In looping flow, specific actions will be executed repeatedly, a certain number of times. After completing the actions the specified number of times, the process exits the loop.



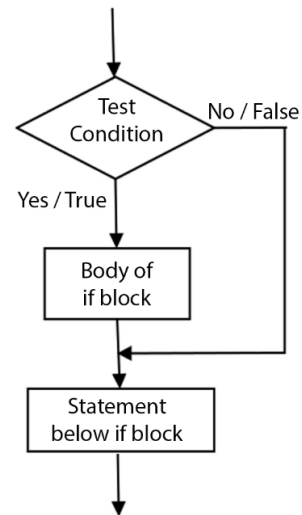
Simple If statement

In Python, an if statement runs a block of code only if a condition is true. If the condition is false, the code is skipped. Here's the basic structure of how it works.



Example1:

```
if x==0:  
  
    print("zero")
```



Example 1: If the value of x is 0, we get “zero” as output.

```
Thonny - <untitled> @ 3:17  
File Edit View Run Tools Help  
  
<untitled> * x  
1 x=int(input("x= "))  
2 if x==0:  
3     print("Zero")  
4  
5  
  
Shell x  
>>> %Run -c $EDITOR_CONTENT  
x= 0  
Zero  
>>>
```

Example 2 : Write a python code to check given number is greater than 10.

Python code.

```
Thonny - <untitled> @ 3:5  
File Edit View Run Tools Help  
  
<untitled> * x  
1 x=int(input("x= "))  
2 if x>10:  
3     print("Number is greater than 10")  
4  
  
Shell x  
>>> %Run -c $EDITOR_CONTENT  
x= 32  
Number is greater than 10  
>>>
```

Activity in offline compiler.

1. Write a python program to check the eligibility of voting. (Age > 18)

```
Thonny - <untitled> @ 3:37
File Edit View Run Tools Help

<untitled> * x
1 x=int(input("Enter your age = "))
2 if x>=18:
3     print("You are eligible to vote.")
4

Shell x
>>> %Run -c $EDITOR_CONTENT
Enter your age = 12
>>> %Run -c $EDITOR_CONTENT
Enter your age = 19
You are eligible to vote.
>>>
```

2. Write a python program to check whether the given number is even (num%2)

```
<untitled> * x
1 x=int(input("Enter a number = "))
2 if x%2==0:
3     print("Even Number")
4

Shell x
>>> %Run -c $EDITOR_CONTENT
Enter a number = 3
>>> %Run -c $EDITOR_CONTENT
Enter a number = 6
Even Number
>>>
```