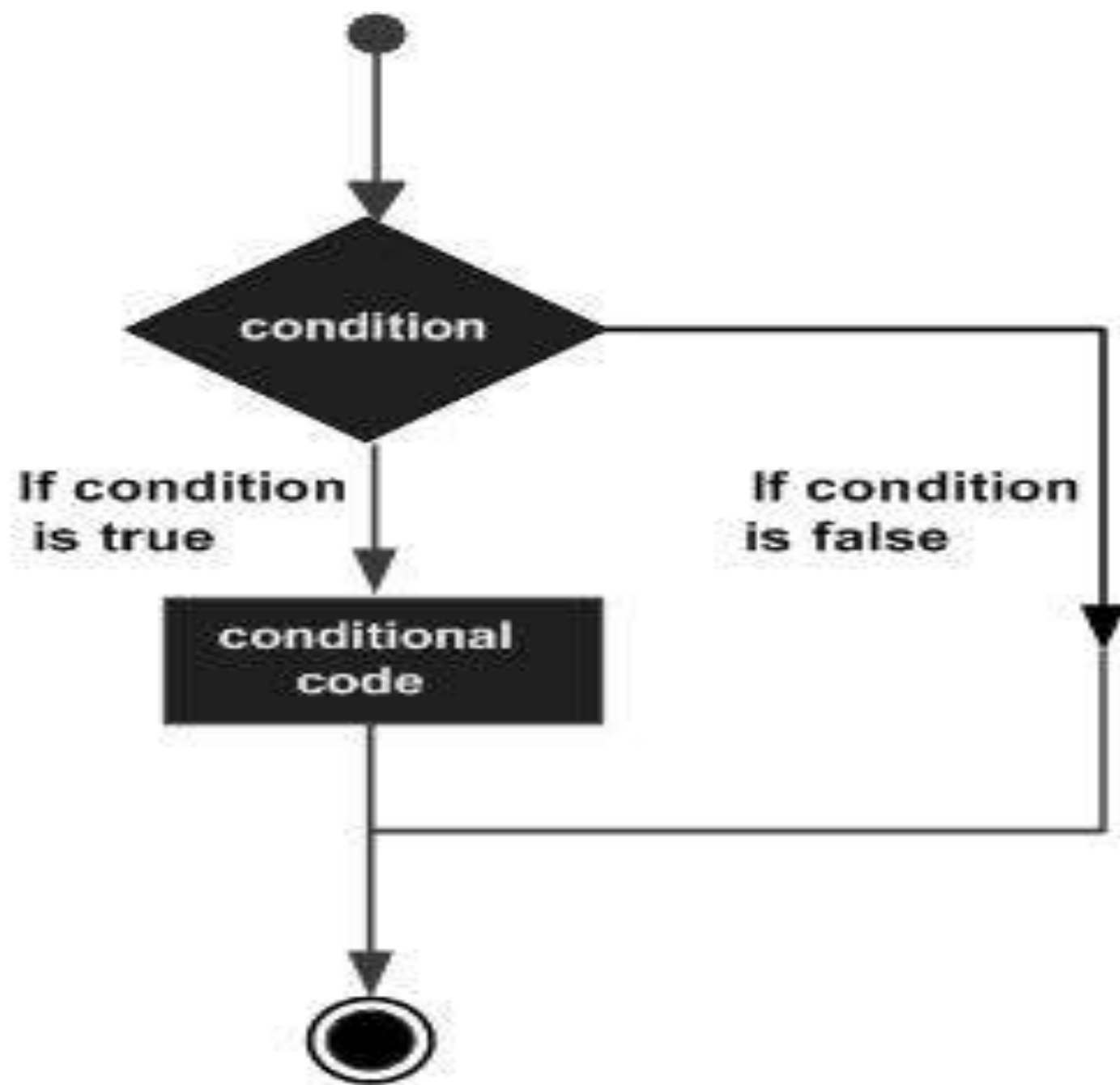


PYTHON - DECISION MAKING

Introduction

- Flow refers to the order in which the statements in a program execute
- Statements executes in a sequence, from the first to the last statement
- Conditional statements change the order of flow in a program
- Conditional statements execute a set of statements only when a specified condition is satisfied



`if` statement

- Executes a block of code only when the specified condition is true
- The block of code is ignored if the condition is false
- The syntax for the `if` statement:

```
if condition:
```

```
    //Code executes if the condition is true
```

if statement - Example

```
a=50
```

```
b=100
```

```
if (a<b) :
```

```
    print("a is less than b")
```

a < b

Python displays, a is less than b

if ...else statement

- Executes a block of code when the specified condition is false
- Syntax for if ...else statement:

```
if condition:
```

```
    //Code executes if the condition is true
```

```
else :
```

```
    //Code executes if the condition is false
```

if ...else statement - Example

```
if a<b:
```

```
    print("A is less than B")
```

```
else:
```

```
    print("B is less than A")
```

Ternary Operator in Python

- The simplest way to use a Python ternary operator is when we have a simple if else condition, that is, either of the two conditions is True and the other is False
- **Syntax:** *true_value if condition else false_value*

- *e.g.*

```
# Program to demonstrate ternary operator
```

```
a = 10
```

```
b = 20
```

```
min = "a is minimum" if a < b else "b is minimum"
```

```
print(min)
```

- *We can also nest this operator*

```
print("Both are equal" if a == b else "a is greater" if a > b else "b is greater")
```


Nested `if` statement

- Specify if statement within `if` or `else` statement
- Syntax for nested `if` statement:

```
if condition:
    //code to be executed
    if condition:
        //code to be executed
else :
    //code to be executed
    if condition:
        //code to be executed
```

Nested **if** statement - Example

```
If a < 500:  
    echo "A is les than 500  
Else :  
    if    a >= 500 and  a <= 700:  
        print( "A is between 500 and 700")  
    else :  
        print("A is greater than 700")
```

The elif statement

The syntax of the elif statement is given below.

if expression 1:

block of statements

elif expression 2:

block of statements

elif expression 3:

block of statements

else:

block of statements