



CLASS – VIII COMPUTER SCIENCE NOTES OCTOBER

CHAPTER 8 – Loops and Statements in Python

A. Tick the correct option.

1. Which of the following is a type of statement in python?

- (a) Selection (b) Sequence **(c) Both of these**

2. Which of the following is a selection statement?

- (a) if-else (b) if-elif-else **(c) Both of these**

3. Each execution of a loop is called _____

- (a) Cycle **(b) iteration** (c) Phase

4. The _____ statement is used to go ahead to the next iteration without executing the remaining statements in the loop

- (a) continue** (b) break (c) stop

B. Fill in the blanks:-

1. **Sequence** statement are used to execute statements in a specific order.

2. The **if-else** statement evaluates the test expression and will execute the body of if only when the test condition is true.

3. The **while** statement is also known as the entry control loop statement.

4. The **Continue** statement is used to go to the next iteration without executing the remaining statements in the loop.

C. Write 'T' for true and 'F' for false for the following statements.

1. The jump statements are used to check the conditions. - F

2. The continue statement is a type of iterative statement. – T

3. The if...elif...else is a conditional statement. – T

4. The range function is used to generate a series of numbers. – F

D . Short answer questions:-

1. What is a statement?

A statement is an instruction given to the python interpreter to execute a command. In other words, instructions are called statements.

Example 1:

```
Print("Happy independence day")
```

The above statement will print the message "Happy independence day".

2. Name the types of statements in python.

There are different types of statements in python as given below:

- Sequence statements
- Conditional/Selection Statements
- Iterative Statements
- Jump Statements

3. Difference between break and continue statements.

The Break statement : The 'break' statement is used to exit a loop based on a condition. When a program encounters a 'break' statement inside a loop, the current iteration will stop and control is transferred to the statement that appears immediately after the loop.

The Continue statement: The 'continue statement is used to go to the next iteration without executing the remaining statements in the loop based on a condition. It can be useful when you wish to skip the execution of a particular iteration of the loop.

E. Long answer questions.

1. What is the difference between the 'if' and 'if...else' statements?

If statement:

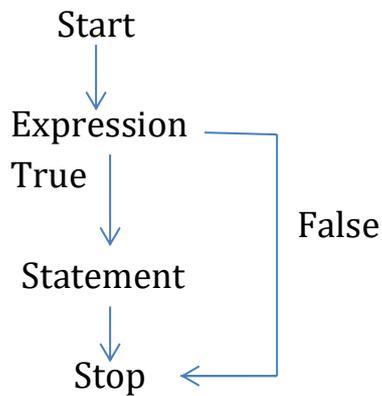
- The if statement evaluates the test expression and will execute the body of if only when the test condition is True.
- If the condition is False, the statement will come to the end part.

Flow chart of a if statement

Syntax:

```
If(expression)
```

```
{Statement1;}
```



If...else Statement:

- The if...else statement evaluates the test expression and will execute the body of if only when the test condition is True.
- If the condition is False, the body of else is executed. Indentation is used to separate the blocks.

Syntax:

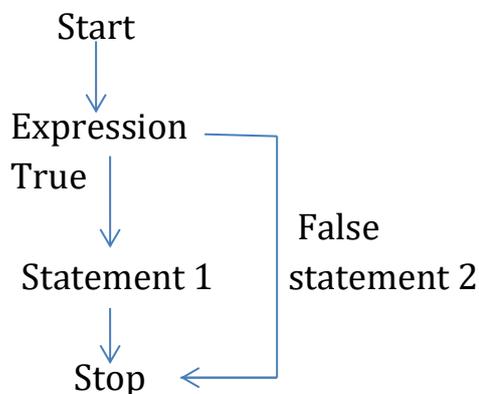
If test expression:

 Body of if

Else:

 Body of else

Flow chart of if...else statement



2. Explain the range functions using an example.

The range() function in python is used to generate a sequence of numbers. By default, the starting cvalue in a range() is 0. For example, range(6) will generate numbers from 0 to 5. The syntax of the range() function is given below.

Syntax:

Range(start, stop, step_size)

Start - an integer value that specifies the position to start

Stop - an integer value that specifies the position to stop

Step - an integer value that specifies the increment

Examples:

Range(10) will generate a sequence of numbers from 0 to 9. Here, 10 is the 'stop' value, the 'start' value is taken as 0 and 'step_size' is taken as 1 by default.

Range(1,11) will generate a sequence of numbers from 1 to 10.

Range(1,11,2) will generate a sequence of odd numbers from 1 to 10 by taking step size 2.

3 . Explain the while loop using an example.

In python, the while statement is used to execute a set of statements repeatedly. In python, the while statement is also know as the entry control loop statement because in the case of the while statement, first, the given condition is verified then the execution of statements is determined based on the condition result.

Syntax:

While test_expression:

 Body of while

Flowchart of while statement:

