

## Python Day 11

### 8.2 The While Loop

While loop is used to execute a block of code repeatedly until a condition is met. And when the condition is not true, the statement immediately after the loop in the program is executed. The repetition in While loop is not fixed.

**Syntax:**

```
while condition_true:
    statement...
```

**Example:**

```
x=45
while x!=0:
    x=x//10
```

In this example number of executions depend on condition.

### 8.3 Break, Continue and Pass Statements

#### *8.3.1 Break statement*

The break clause is used to stop the current loop execution and jump to the next code block. You don't usually only use break clause, it is usually enclosed within an if statement that defines the conditions needed for defining a break.

**Example**

```
for i in range(1,10,1):
    if(i==5):
        break
    print(i)
```

in the above code output will be: 1 2 3 4

As soon as i==5 code executes a break to end the loop

#### *8.3.2 Continue statement*

The continue statement skips that code block and moves on to the next element in the sequence. Unlike break which completely ends the loop, continue brings control out of the loop.

**Example**

```
for i in range(1,10,1):
    if(i==5):
        continue
    print(i)
```

in the above code output will be: 1 2 3 4 6 7 8 9

In this case code refuses to take 5 but will process every other number in range

### 8.3.3 Pass statement

Pass statement is used to write empty loops. The Pass statement can also be used for empty control statements, functions and classes

1. WAP to find and print the sum of  $2 \times 5 + 5 \times 9 + 8 \times 13 + \dots + 29 \times 41$
2. WAP to find and print the sum of  $1 \times 2 \times 3 + 3 \times 4 \times 5 + 5 \times 6 \times 7 + \dots + 21 \times 22 \times 23$
3. WAP to find and print the sum of  $\sqrt{1} + \sqrt{2} + \sqrt{3} + \dots + \sqrt{25}$
4. WAP to find and print the sum of  $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{25}$
5. WAP to find and print the sum of  $\frac{2}{3} + \frac{4}{5} + \frac{6}{7} + \dots + \frac{20}{21}$
6. WAP to find and print the sum of  $\frac{1^2}{2} + \frac{2^4}{3} + \frac{3^6}{4} + \dots + \frac{20^{40}}{21}$
7. WAP to find and print the sum of  $\frac{2^2}{3^2} + \frac{3^2}{5^2} + \frac{4^2}{7^2} + \dots + \frac{27^2}{53^2}$
8. WAP to find and print the sum of  $\frac{1}{2 \times 3} + \frac{2}{3 \times 4} + \frac{3}{4 \times 5} + \dots + \frac{20}{21 \times 22}$