

Programming with Python

Jan 31, 2025

Note: Brief Summary of contents discussed.

Exercise: Print the patterns using for loop

(a)

* * * * *

 * * * *

 * * *

 * *

 *

```
for i in range(5):  
    print(' ' * i + '*' * (5-i))
```

(b)

* * * * *
* * * * *

 * * * * *

 * * * * *

 * * *

 *

While loop: Used for repeatedly executing a sequence of statements based on some condition being True.

```
while <test condition>:  
    <Statements>
```

Exercise:

1. Write a program to find sum of digits of first n natural numbers using while loop
2. Compute sum of the numbers entered by the user until a null value is found.

3. Revise the following for loop code with a while loop:
- ```
for count in range(1, n+1):
 total += count
```

Revised Code:

```
count = 1
while count < n+1:
 total += count
 count += 1
```

4. Give the output:

(a)

```
number = 72958476
while (number > 0):
 digit = number % 10
 if (digit % 2 != 0):
 a += digit
 else:
 b += digit
 number /= 10
print(a, b)
```

(b)

```
total = 0
N = 5
for i in range(1, N+1):
 for j in range(1, i+1):
 total += 1
 total -= 1
print(total)
```

(c)

```
total = 0
```

```
N = 5
```

```
for i in range(1, N+1):
```

```
 for j in range(1, i+1):
```

```
 for k in range(1, j+1):
```

```
 total += 1
```

5. Find the sum of digits of a given number using while loop (and // and % operator)