loops-assignment

June 15, 2024

`[ ]:` 1.Print numbers `from` 1 to 5 using a `while` loop.

`[2]:`
```python
i = 1
while i < 6:
    print(i)
    i +=1
```

```
1
2
3
4
5
```

`[ ]:` 2.Calclate the `sum` of number `from` 1 to 10 using a `while` loop.

`[11]:`
```python
n = 0
i = 1
while i < 10:
    print(i)
    n = n + 1
    i = i+1
else:
    print(n)
```

```
1
2
3
4
5
6
7
8
9
9
```

`[ ]:` 3. Calculate the factorial of a number using a `for` loop.

```python
[67]: n = int(input("Enter n:"))
      fact = 1
      for i in range(2, n+1):
          fact *= i
      print("Factorial of {} is:{}".format(n, fact))
```

Enter n: 1

Factorial of 1 is:1

```python
[68]: n = int(input("Enter n:"))
      fact = 1
      for i in range(2, n+1):
          fact *= i
      print("Factorial of {} is:{}".format(n, fact))
```

Enter n: 5

Factorial of 5 is:120

```python
[ ]: 4.Count the number of vowels in a string using a for loop.
```

```python
[66]: string = "Enjoy Mumbai Rains"
      vowels = '[aeiouAEIOU]'
      count = len(re.findall(vowels, string))
      print(count)
```

7

```python
[ ]: 5.Print a pattern using nested loops.
```

```python
[22]: rows = 8
      for i in range(rows):
          for j in range(i):
              print(i, end=' ')
          print('')
```

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
6 6 6 6 6 6
7 7 7 7 7 7 7
```

```python
[ ]: 6.Generate a multiplication table using nested loops.
```

```python
[60]: for i in range(1, 4):
          for j in range(1, 11):
              print(i, "x", j, "=", i * j)
```

```
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20
3 x 1 = 3
3 x 2 = 6
3 x 3 = 9
3 x 4 = 12
3 x 5 = 15
3 x 6 = 18
3 x 7 = 21
3 x 8 = 24
3 x 9 = 27
3 x 10 = 30
```

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