for-loop

April 29, 2024

[2]:
```python
# python program to Display all Numbers within a range except the Prime numbers.
num_low = int(input("Enter the lower range number: "))
num_up = int(input("Enter the upper range number: "))

print("The prime numbers are between ",num_low,"to", num_up, " are: ")

for num in range(num_low,num_up + 1):
    if num > 1:
        for i in range(2,num):
            if (num % i) == 0:
                break
        else:
            print(num)
```

```
Enter the lower range number:  1
Enter the upper range number:  30

The prime numbers are between  1 to 30  are:
2
3
5
7
11
13
17
19
23
29
```

[52]:
```python
# for loop to calculate the sum of all numbers from 1 to 100.
num = 100
sum = 0
for i in range(num + 1):
    sum += i
    print(sum)
```

```
0
1
3
```

6
10
15
21
28
36
45
55
66
78
91
105
120
136
153
171
190
210
231
253
276
300
325
351
378
406
435
465
496
528
561
595
630
666
703
741
780
820
861
903
946
990
1035
1081
1128
1176
1225
1275

1326
1378
1431
1485
1540
1596
1653
1711
1770
1830
1891
1953
2016
2080
2145
2211
2278
2346
2415
2485
2556
2628
2701
2775
2850
2926
3003
3081
3160
3240
3321
3403
3486
3570
3655
3741
3828
3916
4005
4095
4186
4278
4371
4465
4560
4656
4753
4851

```
4950
5050
```

[53]:
```python
# for loop to calculate the sum of all odd numbers from 1 to 100.
num = 100
sum = 0
for i in range(num):
    if i % 2 == 1:
        sum+=i
    print(sum)
```

```
0
1
1
4
4
9
9
16
16
25
25
36
36
49
49
64
64
81
81
100
100
121
121
144
144
169
169
196
196
225
225
256
256
289
289
324
324
```

361
361
400
400
441
441
484
484
529
529
576
576
625
625
676
676
729
729
784
784
841
841
900
900
961
961
1024
1024
1089
1089
1156
1156
1225
1225
1296
1296
1369
1369
1444
1444
1521
1521
1600
1600
1681
1681
1764
1764

```
1849
1849
1936
1936
2025
2025
2116
2116
2209
2209
2304
2304
2401
2401
2500
```

[5]:
```python
# for loop to find the maximum number in a list.
larg = [35,48,35.57,67]
largest = larg[0]
for i in larg:
    if i > largest:
        largest = i
print(largest)
```

```
67
```

[54]:
```python
# for loop to find the maximum number in a list.
list = [35,48,35.57,67]
print("Max num in the list is: ", max(list))
```

```
Max num in the list is:  67
```

[6]:
```python
# for loop to calculate the factorial of a given number.
fact = int(input("Enter the number: "))
Factorial = 1
if fact >= 1:
    for i in range(1,fact+1):
        Factorial = Factorial * i
print("Factorial of the num is: ",Factorial)
```

```
Enter the number:  13
Factorial of the num is:  6227020800
```

[7]:
```python
# for loop to iterate over a string and count the number of vowels.
String = input('Enter the string: ')
count = 0
```

```
String = String.lower()
for i in String:
    if i == 'a' or i == 'e' or i == 'i' or i == 'o' or i == 'u':
        count += 1
if count == 0:
    print('No vowels found')
else:
    print('Total vowels are :' + str(count))
```

```
Enter the string:  Devangi

Total vowels are :3
```

[56]:
```
# Write a program to display all the numbers which are divisible by 11 but not␣
 ↪by 2 between 100 and 500.
a = 100
b = 500
print("Numbers divisible by 11 but not by 2 between 100 and 500 are :")
for i in range(a, b+1):
    if i % 11 == 0 and i % 2 != 0 :
        print(i, end = " ")
```

```
Numbers divisible by 11 but not by 2 between 100 and 500 are :
121 143 165 187 209 231 253 275 297 319 341 363 385 407 429 451 473 495
```

[2]:
```
# for loop to find the common elements between two lists.
import numpy as np

def common_member(a, b):
    return list(np.intersect1d(a, b))

a = [1, 2, 3, 4, 5]
b = [5, 6, 7, 8, 9]
common_elements = common_member(a, b)
print(common_elements)
```

```
[5]
```

[9]:
```
# for loop to print the first 10 even numbers.
num = 11
for i in range(1, num):
    if (i%2 == 0):
        print(i,end=" ")
    print("")
```

```
2
```

```
4

6

8

10
```

[14]:
```python
# Create a for loop to iterate over a dictionary and print the keys and values
grades = {'John': 85, 'Emily': 92, 'Lucas': 78}
print('Keys:', list(grades.keys()))
print('Values:', list(grades.values()))
```

```
Keys: ['John', 'Emily', 'Lucas']
Values: [85, 92, 78]
John
Emily
Lucas
```

[12]:
```python
# for loop to iterate over a list and print each element.
list = [1, 2, 3, 5, 7, 9]

for i in list:
    print(i)
```

```
1
2
3
5
7
9
```

[38]:
```python
# for loop to remove duplicates from a list.
my_list = [1,2,2,3,1,4,5,1,2,6]
print(str(my_list))
my_list=(set(my_list))
print(str(my_list))
```

```
[1, 2, 2, 3, 1, 4, 5, 1, 2, 6]
{1, 2, 3, 4, 5, 6}
```

[16]:
```python
# for loop to print a pattern of stars in the shape of a triangle.
n = 5
for i in range(1, n + 1):
        for j in range(n - i):
            print(" ", end="")
        for k in range(1, 2*i):
            print("*", end="")
```

```
        print("")
```

```
    *
   ***
  *****
 *******
*********
```

[42]:
```
# for loop to print a pattern of stars in the shape of a square and write your␣
 ↪initial latter in square..
for row in range(5):
    for col in range(5):
        if row in (0,4):
            print("*",end = " ")
        elif (row in (1,2,3,4) and col in (0,4)):
            print("*",end = " ")
        elif (row in (0,2) and col in (0,2)):
            print("D", end = " ")
        else:
            print(" ", end = " ")
    print(" ")
```

```
* * * * *
*       *
*   D   *
*       *
* * * * *
```

[ ]: