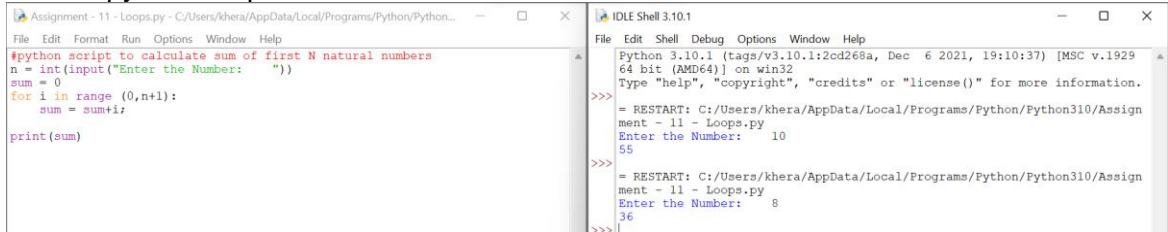


Assignment - 11 Full Stack Web Development using Python MySirG

loops

1. Write a python script to calculate sum of first N natural numbers

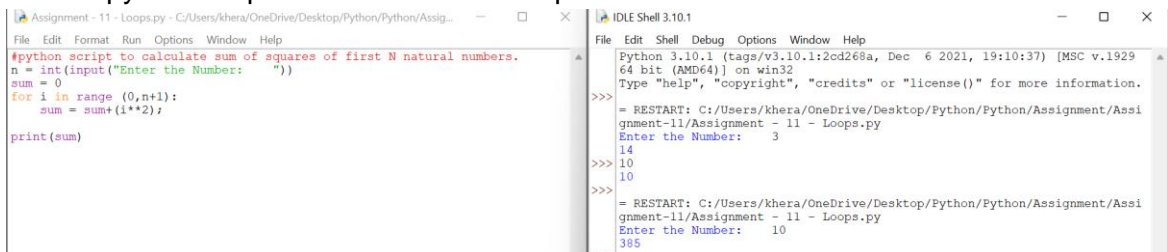


The screenshot shows a Python script in a text editor and its execution in the IDLE Shell. The script prompts the user to enter a number, and the shell shows the calculation of the sum of the first 10 natural numbers, resulting in 55.

```
File Edit Format Run Options Window Help
#python script to calculate sum of first N natural numbers
n = int(input("Enter the Number: "))
sum = 0
for i in range(0,n+1):
    sum = sum+i;
print(sum)
```

```
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/khera/AppData/Local/Programs/Python/Python310/Assign
ment - 11 - Loops.py
Enter the Number: 10
55
>>> = RESTART: C:/Users/khera/AppData/Local/Programs/Python/Python310/Assign
ment - 11 - Loops.py
Enter the Number: 8
36
>>>
```

2. Write a python script to calculate sum of squares of first N natural numbers

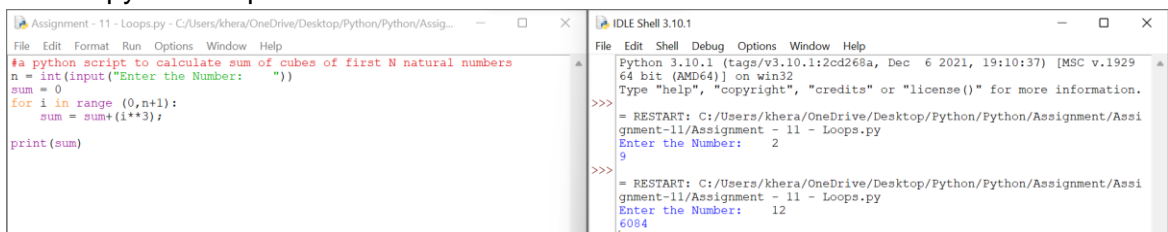


The screenshot shows a Python script in a text editor and its execution in the IDLE Shell. The script prompts the user to enter a number, and the shell shows the calculation of the sum of the squares of the first 10 natural numbers, resulting in 385.

```
File Edit Format Run Options Window Help
#python script to calculate sum of squares of first N natural numbers.
n = int(input("Enter the Number: "))
sum = 0
for i in range(0,n+1):
    sum = sum+(i**2);
print(sum)
```

```
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 3
14
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 10
385
>>>
```

3. Write a python script to calculate sum of cubes of first N natural numbers

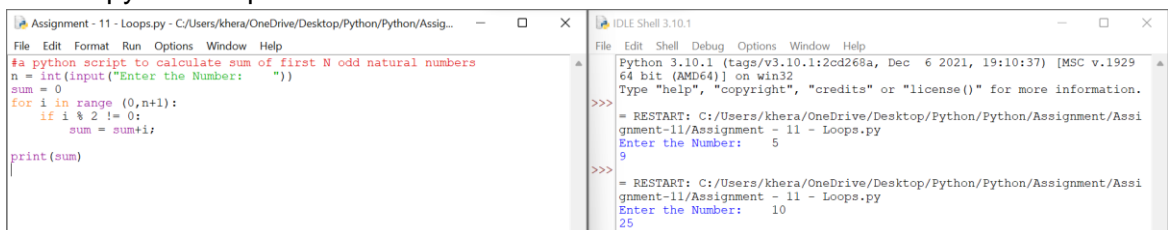


The screenshot shows a Python script in a text editor and its execution in the IDLE Shell. The script prompts the user to enter a number, and the shell shows the calculation of the sum of the cubes of the first 12 natural numbers, resulting in 6084.

```
File Edit Format Run Options Window Help
#a python script to calculate sum of cubes of first N natural numbers
n = int(input("Enter the Number: "))
sum = 0
for i in range(0,n+1):
    sum = sum+(i**3);
print(sum)
```

```
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 2
9
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 12
6084
>>>
```

4. Write a python script to calculate sum of first N odd natural numbers

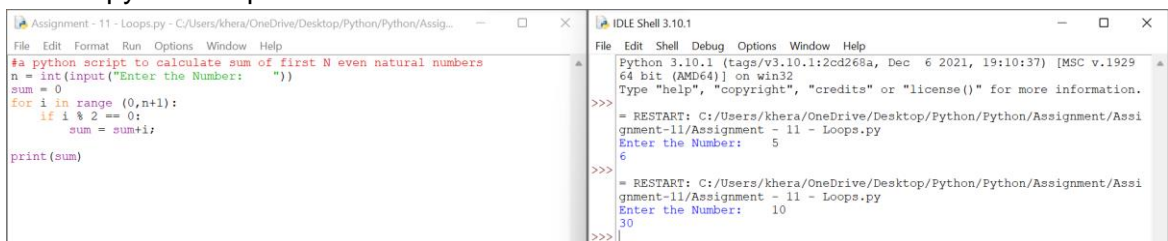


The screenshot shows a Python script in a text editor and its execution in the IDLE Shell. The script prompts the user to enter a number, and the shell shows the calculation of the sum of the first 10 odd natural numbers, resulting in 25.

```
File Edit Format Run Options Window Help
#a python script to calculate sum of first N odd natural numbers
n = int(input("Enter the Number: "))
sum = 0
for i in range(0,n+1):
    if i % 2 != 0:
        sum = sum+i;
print(sum)
```

```
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 5
9
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 10
25
>>>
```

5. Write a python script to calculate sum of first N even natural numbers

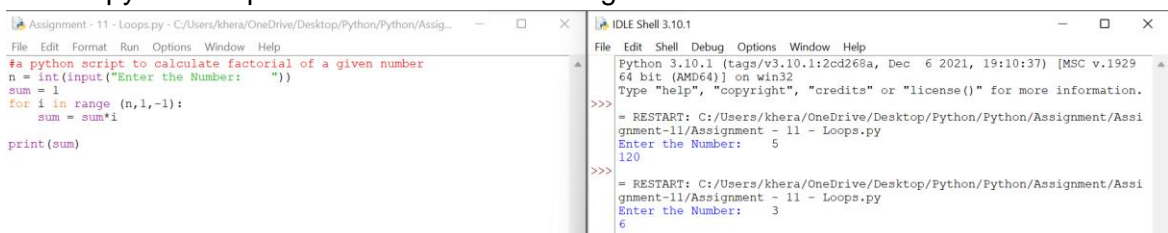


The screenshot shows a Python script in a text editor and its execution in the IDLE Shell. The script prompts the user to enter a number, and the shell shows the calculation of the sum of the first 10 even natural numbers, resulting in 30.

```
File Edit Format Run Options Window Help
#a python script to calculate sum of first N even natural numbers
n = int(input("Enter the Number: "))
sum = 0
for i in range(0,n+1):
    if i % 2 == 0:
        sum = sum+i;
print(sum)
```

```
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 5
6
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 10
30
>>>
```

6. Write a python script to calculate factorial of a given number



The screenshot shows a Python script in a text editor and its execution in the IDLE Shell. The script prompts the user to enter a number, and the shell shows the calculation of the factorial of 5, resulting in 120.

```
File Edit Format Run Options Window Help
#a python script to calculate factorial of a given number
n = int(input("Enter the Number: "))
sum = 1
for i in range(n,1,-1):
    sum = sum*i
print(sum)
```

```
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 5
120
>>> = RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gnment-11/Assignment - 11 - Loops.py
Enter the Number: 3
6
>>>
```

7. Write a python script to count digits in a given number

The screenshot shows a Python script in a text editor and its execution in the IDLE Shell. The script prompts the user to enter a number and then counts the number of digits using a while loop. The shell shows the user entering 12345 and 345289467, with the script correctly outputting 5 and 9 respectively.

```

Assignment - 11 - Loops.py - C:/Users/khera/OneDrive/Desktop/Python/Python/Assign...
File Edit Format Run Options Window Help
#python script to count digits in a given number
n = int(input("Enter the Number: "))
count = 0
while(n!=0):
    n//=10
    count+=1
print(count)

IDLE Shell 3.10.1
File Edit Shell Debug Options Window Help
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/Assignment - 11 - Loops.py
Enter the Number: 12345
5
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/Assignment - 11 - Loops.py
Enter the Number: 345289467
9
>>>

```

8. Write a python script to calculate sum of digits of a given number

The screenshot shows a Python script that calculates the sum of digits of a given number using a for loop. The shell shows the user entering 12345 and 687, with the script outputting 15 and 21 respectively.

```

Assignment - 11 - Loops.py - C:/Users/khera/OneDrive/Desktop/Python/Python/Assign...
File Edit Format Run Options Window Help
#a python script to calculate sum of digits of a given number
n = int(input("Enter the Number: "))
s=0
for i in range(n+1):
    r = n%10
    n = n//10
    s=s+r
print(s)

IDLE Shell 3.10.1
File Edit Shell Debug Options Window Help
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/Assignment - 11 - Loops.py
Enter the Number: 12345
15
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/Assignment - 11 - Loops.py
Enter the Number: 687
21
>>>

```

9. Write a python script to print binary equivalent of a given decimal number. (do not use bin() method)

The screenshot shows a Python script that converts a decimal number to its binary equivalent using a while loop. The shell shows the user entering 50, 345, and 25, with the script outputting 00110010, 0010101001, and 0011001 respectively.

```

binwithoutFuntion.py - C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/...
File Edit Format Run Options Window Help
"""#a python script to print binary equivalent of a given
decimal number. (do not use bin() method)"""
print("Enter Decimal Number: ", end="")
dnum = int(input())

bnum = 0
mul = 1
while dnum>0:
    rem = dnum%2
    bnum = bnum+(rem*mul)
    mul = mul*10
    dnum = int(dnum/2)
print("00", end="")
print(bnum)

IDLE Shell 3.10.1
File Edit Shell Debug Options Window Help
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/binwithoutFuntion.py
Enter Decimal Number: 50
00110010
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/binwithoutFuntion.py
Enter Decimal Number: 345
0010101001
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/binwithoutFuntion.py
Enter Decimal Number: 25
0011001
>>>

```

10. Write a python script to print the octal equivalent of a given decimal number. (do not use oct() method)

The screenshot shows a Python script that converts a decimal number to its octal equivalent using a while loop. The shell shows the user entering 33, 10, and 16, with the script outputting the octal values and their decimal equivalents: 33 is 41, 10 is 12, and 16 is 20.

```

oct to deci.py - C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assign...
File Edit Format Run Options Window Help
#python script to print the octal equivalent of a given decimal number
decinum = int(input("Enter Octal Number "))
octalNum = 0
countval = 1
dNo = decinum
while decinum != 0:
    remainder = decinum % 8

    # storing the octalvalue
    octalNum += remainder * countval

    # storing exponential value
    countval = countval * 10
    decinum //= 8

print("Decimal of the Octal number", dNo, "is", octalNum)

IDLE Shell 3.10.1
File Edit Shell Debug Options Window Help
Python 3.10.1 (tags/v3.10.1:2cd268a, Dec 6 2021, 19:10:37) [MSC v.1929
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/oct to deci.py
Enter Octal Number 33
Decimal of the Octal number 33 is 41
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/oct to deci.py
Enter Octal Number 10
Decimal of the Octal number 10 is 12
>>>
= RESTART: C:/Users/khera/OneDrive/Desktop/Python/Python/Assignment/Assi
gment-11/oct to deci.py
Enter Octal Number 16
Decimal of the Octal number 16 is 20
>>>

```