

**Assignment -1**  
Python Programming

Assignment Date	29 September 2022
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Maximum Marks	2 Marks

**Question-1:**

Write a Python program which accepts the radius of a circle from the user and compute the area.

**Solution:**

```
from math import pi
r = float(input ("Input the radius of the circle : "))
print ("The area of the circle with radius " + str(r) + " is: " +
str(pi * r**2))
```

**Output:**



```
main.py
1 from math import pi
2 r = float(input ("Input the radius of the circle : "))
3 print ("The area of the circle with radius " + str(r) + " is: " + str(pi * r**2))
```

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Input the radius of the circle : 1.2  
The area of the circle with radius 1.2 is:  
4.523893421169302

**Question-2:**

Write a Python program to create a histogram from a given list of integers.

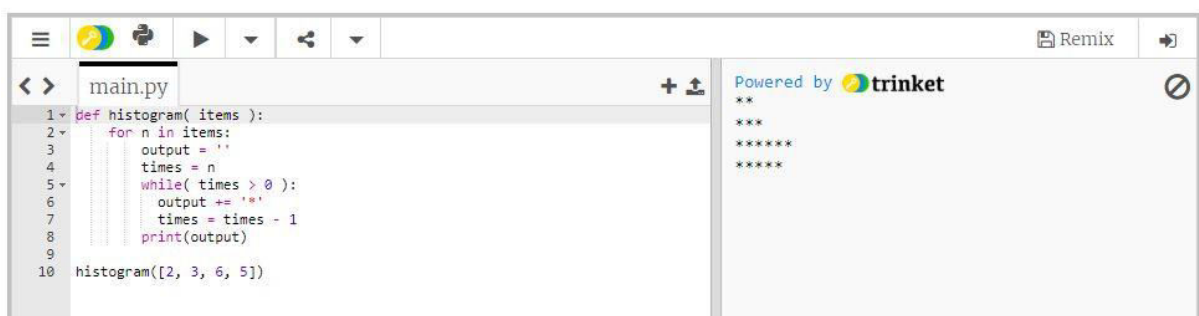
**Solution:**

```
def histogram( items ):
    for n in items:
        output = ''
        times = n
        while( times > 0 ):
            output += '*'
```

```
        times = times - 1
    print(output)
```

```
histogram([2, 3, 6, 5])
```

**Output:**



The screenshot shows a Python IDE interface. On the left, a file named 'main.py' contains the following code:

```
1 def histogram( items ):
2     for n in items:
3         output = ''
4         times = n
5         while( times > 0 ):
6             output += 'x'
7             times = times - 1
8             print(output)
9
10 histogram([2, 3, 6, 5])
```

On the right, the output area shows the result of the function call:

```
xx
xxx
xxxxx
xxxxx
```

The output area also includes the text 'Powered by trinket' and a 'Remix' button.

**Question-3:**

Write a Python program to compute the greatest common divisor (GCD) of two positive integers.

**Solution:**

```
def gcd(x, y):
    gcd = 1
    if x % y == 0:
        return y
    for k in range(int(y / 2), 0, -1):
        if x % k == 0 and y % k == 0:
            gcd = k
            break
    return gcd
print("GCD of 12 & 17 =",gcd(12, 17))
print("GCD of 4 & 6 =",gcd(4, 6))
print("GCD of 336 & 360 =",gcd(336, 360))
```

### Output:



The screenshot shows a Python IDE with a file named `main.py`. The code defines a `gcd` function and prints the GCD for three pairs of numbers. The output on the right shows the results of these calculations.

```
1 def gcd(x, y):
2     gcd = 1
3     if x % y == 0:
4         return y
5     for k in range(int(y / 2), 0, -1):
6         if x % k == 0 and y % k == 0:
7             gcd = k
8             break
9     return gcd
10 print("GCD of 12 & 17 =",gcd(12, 17))
11 print("GCD of 4 & 6 =",gcd(4, 6))
12 print("GCD of 336 & 360 =",gcd(336, 360))
```

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GCD of 12 & 17 = 1  
GCD of 4 & 6 = 2  
GCD of 336 & 360 = 24

### Question-4:

Write a Python program to display the first and last colors from the following list.

### Solution:

```
color_list = ["Red","Green","White" ,"Black"]
print( "%s %s"%(color_list[0],color_list[-1]))
```

### Output:



The screenshot shows a Python IDE with a file named `main.py`. The code creates a list of colors and prints the first and last elements. The output on the right shows the result.

```
1 color_list = ["Red","Green","White" ,"Black"]
2 print( "%s %s"%(color_list[0],color_list[-1]))
```

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Red Black

#### Question-5:

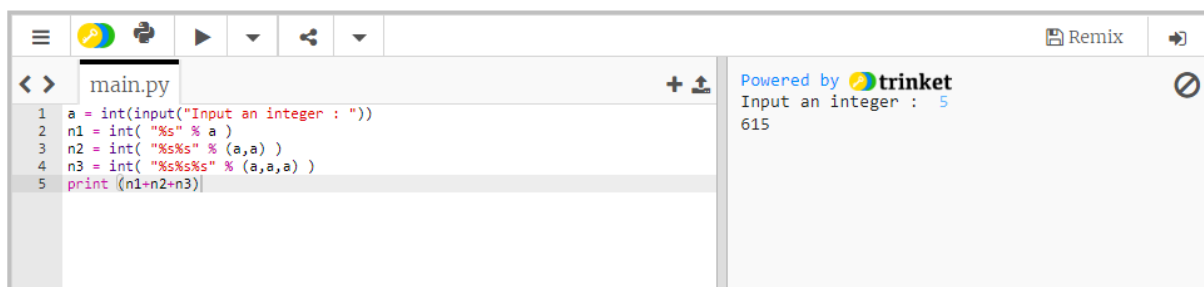
Write a Python program that accepts an integer (n) and computes the value of  $n+nn+nnn$ .

Sample of n is 5

#### Solution:

```
a = int(input("Input an integer : "))
n1 = int( "%s" % a )
n2 = int( "%s%s" % (a,a) )
n3 = int( "%s%s%s" % (a,a,a) )
print (n1+n2+n3)
```

#### Output:



The screenshot shows a Python code editor interface. The code is as follows:

```
1 a = int(input("Input an integer : "))
2 n1 = int( "%s" % a )
3 n2 = int( "%s%s" % (a,a) )
4 n3 = int( "%s%s%s" % (a,a,a) )
5 print (n1+n2+n3)
```

The output of the program is displayed on the right side of the editor:

```
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Input an integer : 5
615
```