Python problem set-1

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Problem 1

Generate the below given output:

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

Solution 1

```
for count in range(1,8):
    print('*'*count);
```

Another application

```
name=input("Type your name:")
string="So your name is "+name+” ?”
print(string)
print(‘*’*len(string))
```

Some common things you should remember when writing python code

- ✓ Always write who is the author. (Shakespeare is not always right.)
- ✓ Always write what you are doing.
- ✓ Always write what date you started writing the code.
- ✓ Calculate execution time at the end of each program.
- ✓ Give nice comments and self-explaining variable names.

Calculating execution time

```
import time
#Recording start time of the program
start=time.time()


print("Execution time of program is",time.time()-start)
```

Problem 2

If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23.Find the sum of all the multiples of 3 or 5 below 1000?

My code

```
#Problem:

#If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23.

#Find the sum of all the multiples of 3 or 5 below 1000.

#Author: Kshithij Iyer

#Date of creation: 12/1/2017

import time

#Recording start time of the program

start=time.time()

#A variable to store the sum
```

```
#calculating the sum for all the numbers below 1000
for i in range(1,1000):
    #Checking the the condition
    if i%3==0 or i%5==0:
        result=result+i
        #print(result)
print("Sum of all numbers that are multiples of 3 or 5 below 1000 is",result)
print("Execution time of program is",time.time()-start)
```

Function definition in python

```
def function_name(parameters):
    “Defining what the function is doing”
    #code
    return value;
```

Problem 3

By listing the first six prime numbers: 2, 3, 5, 7, 11, and 13, we can see that the 6th prime is 13. What is the 10001st prime number?

My code

- #Problem:
- #By listing the first six prime numbers: 2, 3, 5, 7, 11, and 13, we can see that the 6th prime is 13.
- #What is the 10001st prime number?
- #Author: Kshithij Iyer
- #Date of creation: 15/1/2017
- import time
- #Recording start time of the program
- start=time.time()

```
#Calculating the 10001st prime number
def primenumber(n):
    "A function to get the nth prime number"
    #counter for counting the prime numbers
    counter=5
    #A flag to identify the primes
    flag=1
    for i in range(13,105000):
        for j in range(2,i):
            if i%j==0:
                flag=0
                break;
```

```
  else:
                flag=1
if flag==1:
            counter=counter+1
            #print(i," counter = ",counter)
          if counter==n:
            print("The",n,"st prime number is",i)
            return
#primenumber(6)
primenumber(10001)
print("Execution time of program is",time.time()-start)
```

Congrats

- Kushal Das’ training module(Red Hat wala) - problem 1
- Euler 1 - problem 2
- Euler 7 – problem 3