East West University

Lab Report-01

Submitted by:

Name: Sharmin Akther Rima

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section: 03

Course code: CSE303

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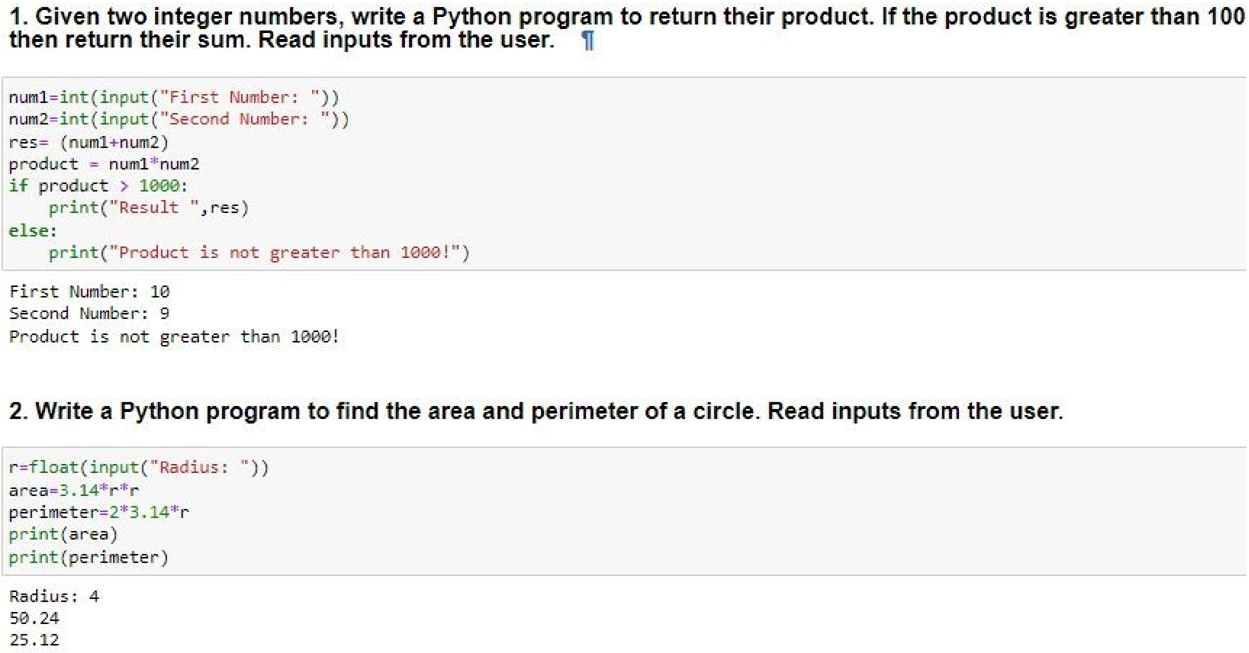
Submitted to:

Md Al-Imran

Lecturer

Department of Computer Science & Engineering

East West University



1. Given two integer numbers, write a Python program to return their product. If the product is greater than 100 then return their sum. Read inputs from the user. ¶

```
num1=int(input("First Number: "))
num2=int(input("Second Number: "))
res= (num1+num2)
product = num1*num2
if product > 1000:
    print("Result ",res)
else:
    print("Product is not greater than 1000!")
```

```
First Number: 10
Second Number: 9
Product is not greater than 1000!
```

2. Write a Python program to find the area and perimeter of a circle. Read inputs from the user.

```
r=float(input("Radius: "))
area=3.14*r*r
perimeter=2*3.14*r
print(area)
print(perimeter)
```

```
Radius: 4
50.24
25.12
```

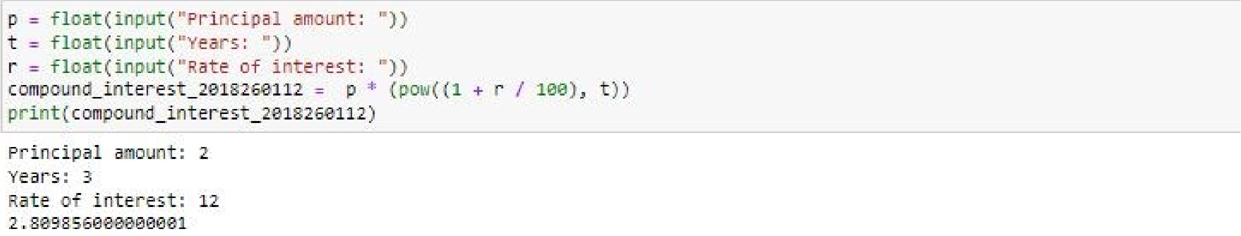
3. Write a Python program to calculate the compound interest based on the given formula. Read inputs

from the user.

A = P * (1 + R/100)

T where P is the principle amount, R is the interest rate and T is time (in years).

Define a function named as compound_interest_ in your program.



```
p = float(input("Principal amount: "))
t = float(input("Years: "))
r = float(input("Rate of interest: "))
compound_interest_2018260112 =  p * (pow((1 + r / 100), t))
print(compound_interest_2018260112)
```

```
Principal amount: 2
Years: 3
Rate of interest: 12
2.809856000000001
```

4. Given a positive integer N (read from the user), write a Python program to calculate the value of the

following series.

1

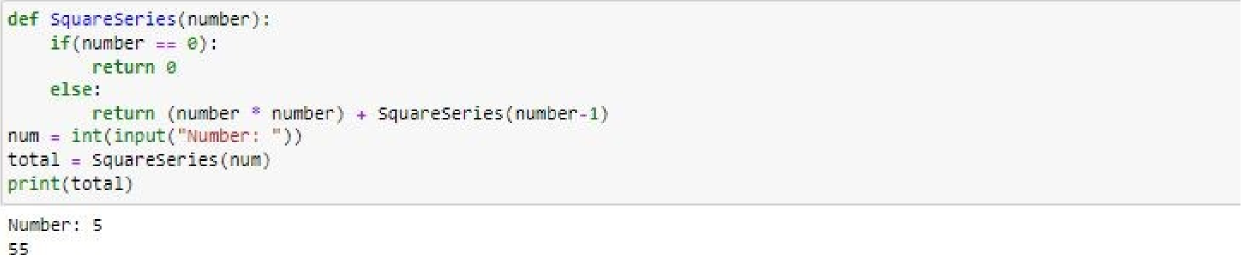
2 + 2

2 + 3

2 + 4

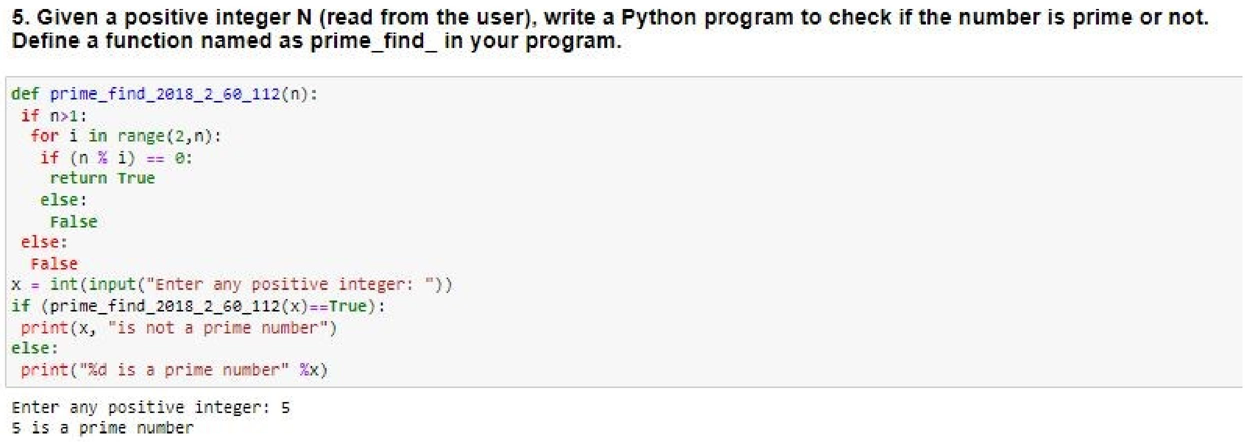
2 ..... + N

2



```
def SquareSeries(number):
    if(number == 0):
        return 0
    else:
        return (number * number) + SquareSeries(number-1)
num = int(input("Number: "))
total = SquareSeries(num)
print(total)
```

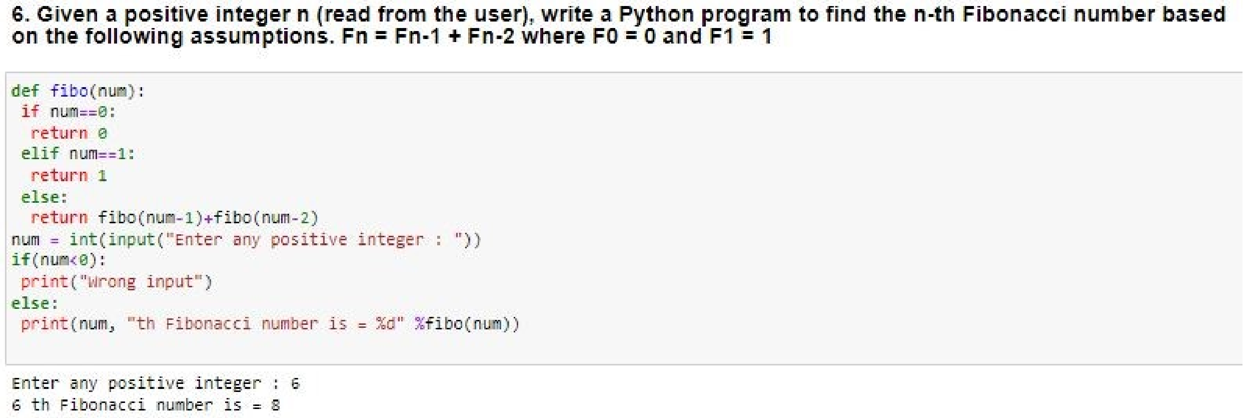
```
Number: 5
55
```



5. Given a positive integer N (read from the user), write a Python program to check if the number is prime or not. Define a function named as prime_find_ in your program.

```
def prime_find_2018_2_60_112(n):
 if n>1:
  for i in range(2,n):
   if (n % i) == 0:
    return True
   else:
    False
 else:
  False
x = int(input("Enter any positive integer: "))
if (prime_find_2018_2_60_112(x)==True):
 print(x, "is not a prime number")
else:
 print("%d is a prime number" %x)
```

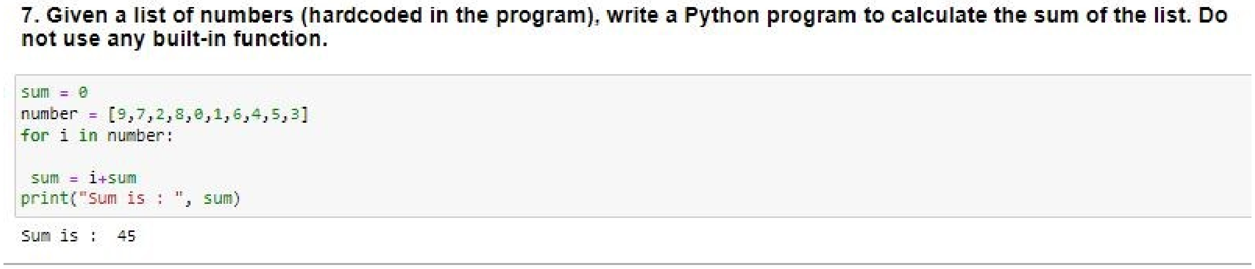
```
Enter any positive integer: 5
5 is a prime number
```



6. Given a positive integer n (read from the user), write a Python program to find the n-th Fibonacci number based on the following assumptions. Fn = Fn-1 + Fn-2 where F0 = 0 and F1 = 1

```
def fibo(num):
 if num==0:
  return 0
 elif num==1:
  return 1
 else:
  return fibo(num-1)+fibo(num-2)
num = int(input("Enter any positive integer : "))
if(num<0):
 print("Wrong input")
else:
 print(num, "th Fibonacci number is = %d" %fibo(num))
```

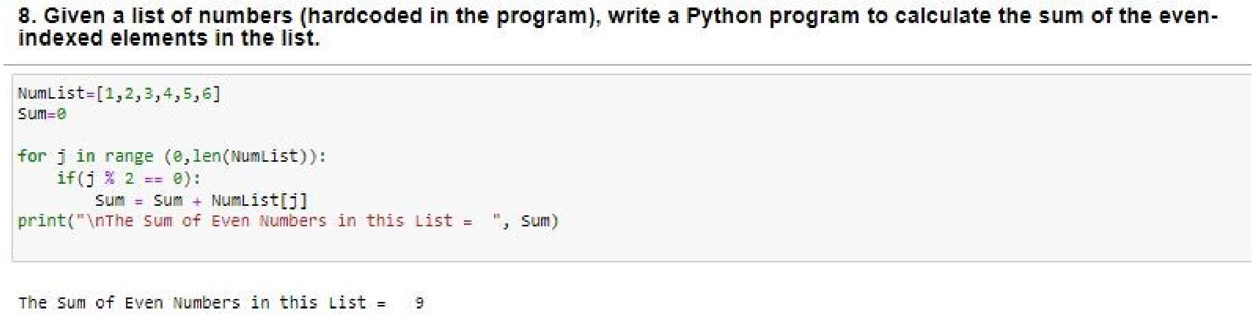
```
Enter any positive integer : 6
6 th Fibonacci number is = 8
```



7. Given a list of numbers (hardcoded in the program), write a Python program to calculate the sum of the list. Do not use any built-in function.

```
sum = 0
number = [9,7,2,8,0,1,6,4,5,3]
for i in number:

 sum = i+sum
print("Sum is : ", sum)
```

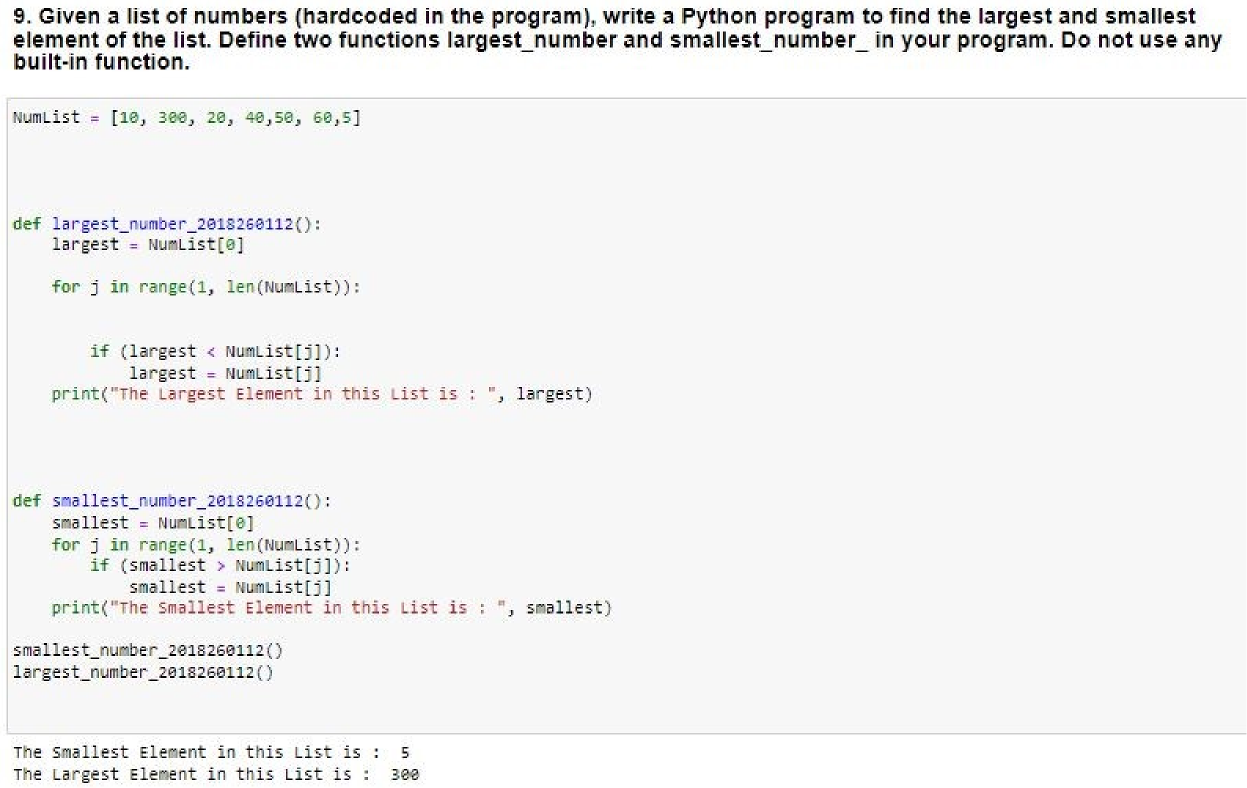
```
Sum is :  45
```



8. Given a list of numbers (hardcoded in the program), write a Python program to calculate the sum of the even-indexed elements in the list.

```
NumList=[1,2,3,4,5,6]
Sum=0

for j in range (0,len(NumList)):
    if(j % 2 == 0):
        Sum = Sum + NumList[j]
print("\nThe Sum of Even Numbers in this List =  ", Sum)
```

```
The Sum of Even Numbers in this List =   9
```



9. Given a list of numbers (hardcoded in the program), write a Python program to find the largest and smallest element of the list. Define two functions largest_number and smallest_number_ in your program. Do not use any built-in function.

```
NumList = [10, 300, 20, 40,50, 60,5]




def largest_number_2018260112():
    largest = NumList[0]

    for j in range(1, len(NumList)):


        if (largest < NumList[j]):
            largest = NumList[j]
    print("The Largest Element in this List is : ", largest)




def smallest_number_2018260112():
    smallest = NumList[0]
    for j in range(1, len(NumList)):
        if (smallest > NumList[j]):
            smallest = NumList[j]
    print("The Smallest Element in this List is : ", smallest)

smallest_number_2018260112()
largest_number_2018260112()
```

```
The Smallest Element in this List is :  5
The Largest Element in this List is :  300
```

10. Given a list of numbers (hardcoded in the program), write a Python program to find the second largest element of the list.

```python
def findLargest(arr):

    secondLargest = arr[0]

    largest = arr[0]

    for i in range(len(arr)):

        if arr[i] > largest:
            largest = arr[i]


    for i in range(len(arr)):

        if arr[i] > secondLargest and arr[i] != largest:
            secondLargest = arr[i]
    return secondLargest


print(findLargest([10, 20, 49,100, 45, 99]))
```

```
99
```

```python
N=[100,154,121,135,130,142]
l=len(N)
N.sort()
print("Second largest element is:", N[l-2])
```

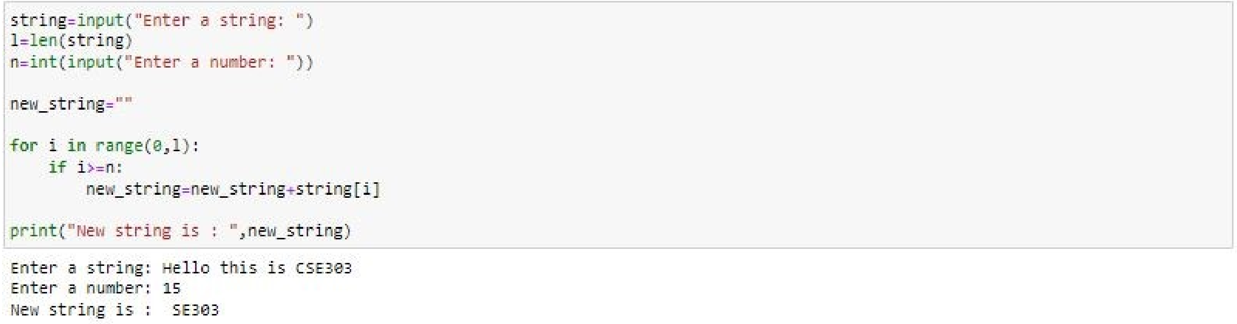
```
Second largest element is: 142
```

11.Given a string, display only those characters which are present at an even index number. Read inputs from the user.

```python
string =input("Enter a string: ")
N= len(string)
for j in range(N):
    if(j%2==0):
        print(string[j])
```

```
Enter a string: Hello world
H
l
o
w
r
d
```

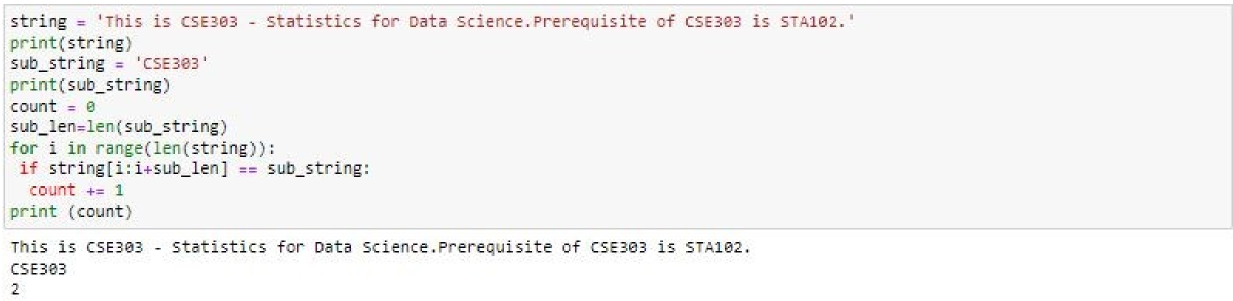
12. Given a string and an integer number n, remove characters from a string starting from zero up to n and return a new string. N must be less than the length of the string. Read inputs from the user. Do not use any built-in function.



```
string=input("Enter a string: ")
l=len(string)
n=int(input("Enter a number: "))

new_string=""

for i in range(0,l):
    if i>=n:
        new_string=new_string+string[i]

print("New string is : ",new_string)
```

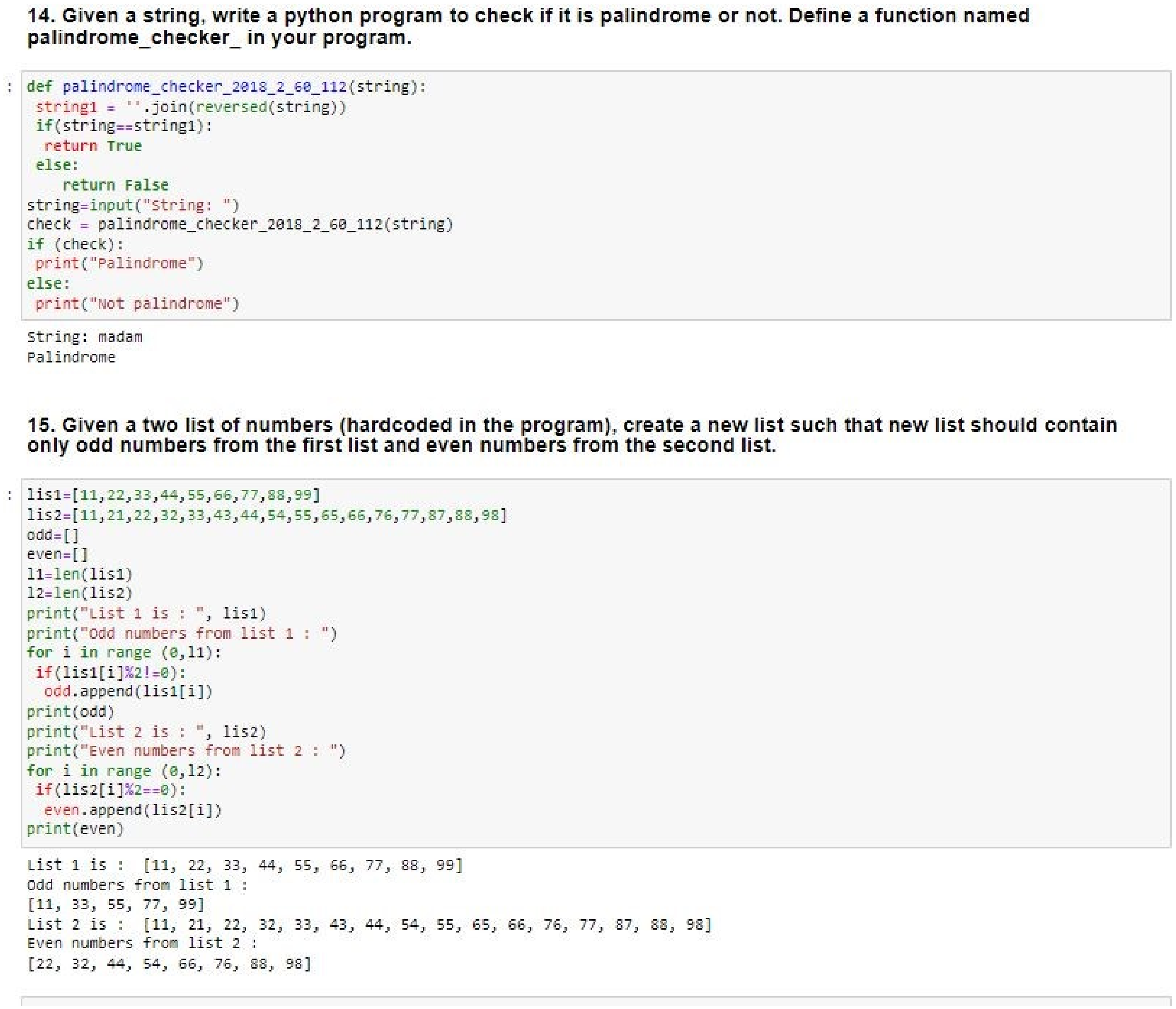
```
Enter a string: Hello this is CSE303
Enter a number: 15
New string is :  SE303
```

13. Given a string, find the count of the substring “CSE303” appeared in the given string. Do not use any built-in function.



```
string = 'This is CSE303 - Statistics for Data Science.Prerequisite of CSE303 is STA102.'
print(string)
sub_string = 'CSE303'
print(sub_string)
count = 0
sub_len=len(sub_string)
for i in range(len(string)):
 if string[i:i+sub_len] == sub_string:
  count += 1
print (count)
```

```
This is CSE303 - Statistics for Data Science.Prerequisite of CSE303 is STA102.
CSE303
2
```



14. Given a string, write a python program to check if it is palindrome or not. Define a function named palindrome_checker_ in your program.

```
def palindrome_checker_2018_2_60_112(string):
 string1 = ''.join(reversed(string))
 if(string==string1):
  return True
 else:
    return False
string=input("String: ")
check = palindrome_checker_2018_2_60_112(string)
if (check):
 print("Palindrome")
else:
 print("Not palindrome")
```

```
String: madam
Palindrome
```

15. Given a two list of numbers (hardcoded in the program), create a new list such that new list should contain only odd numbers from the first list and even numbers from the second list.

```
lis1=[11,22,33,44,55,66,77,88,99]
lis2=[11,21,22,32,33,43,44,54,55,65,66,76,77,87,88,98]
odd=[]
even=[]
l1=len(lis1)
l2=len(lis2)
print("List 1 is : ", lis1)
print("Odd numbers from list 1 : ")
for i in range (0,l1):
 if(lis1[i]%2!=0):
  odd.append(lis1[i])
print(odd)
print("List 2 is : ", lis2)
print("Even numbers from list 2 : ")
for i in range (0,l2):
 if(lis2[i]%2==0):
  even.append(lis2[i])
print(even)
```

```
List 1 is :  [11, 22, 33, 44, 55, 66, 77, 88, 99]
Odd numbers from list 1 :
[11, 33, 55, 77, 99]
List 2 is :  [11, 21, 22, 32, 33, 43, 44, 54, 55, 65, 66, 76, 77, 87, 88, 98]
Even numbers from list 2 :
[22, 32, 44, 54, 66, 76, 88, 98]
```