DS Lab Assignment 1

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Sec: A

Q1: Write a python program to define an integer value and print the values.

```python
x=12  #integer value declaration
print(x) #printing the Value
```

```
12
```

Q2: Write a python program to find addition of two integer numbers taken as input from the user.

```python
a=int(input("Enter 1st Number :")) #Taking 1st number as Input
b=int(input("Enter 2nd Number :")) #Taking 1st number as Input
c=a+b                               # Calculating the sum
print("Total Sum is :",c)
```

```
Enter 1st Number :5
Enter 2nd Number :5
Total Sum is : 10
```

Q3: Write a python program to check the given year is a leap year or not.

```python
a=int(input("Enter the Year :")) #Taking Year as Input
if(a%4==0):
  if(a%100==0):
    if(a%400==0):      # Year divisible by 4,100,400 is a leap
      print("Leap Year")
    else:              # Year divisible by 100 and 4 but not 400 is not a leap
      print("Not a Leap Year")
  else:
    print("Leap Year")
else:                  # Year not divisible by 4 is not leap
  print("Not a Leap Year")
```

```
Enter the Year :2000
Leap Year
```

Q4: Write a python program for swapping the value of two integers.

```
a=int(input("Enter 1st number :"))
b=int(input("Enter 2nd number :"))
c=a
a=b
b=c        #Swapping Number with temporary Variable
print("a: ",a)
print("b: ",b)
```

```
Enter 1st number :12
Enter 2nd number :5
a:   5
b:   12
```

Q5: Write a python program for swapping the value of two integers without a third variable.

```
#Swapping without 3rd Variable
x=int(input("Enter 1st number :"))
y=int(input("Enter 2nd number :"))
x = x + y # storing sum in x
y = x - y # Removing y from sum x+y-y gives x
x = x - y # Removing x from sum x+y-x gives y
print("x: ",x)
print("y: ",y)
```

```
Enter 1st number :56
Enter 2nd number :84
x:   84
y:   56
```

Q6: Write a python program to find the ASCII value of the given character.

```
x=input("Enter the Character :")
print("ASCII value of the Char :",x," is :",ord(x))
```

```
Enter the Character :a
ASCII value of the Char : a  is : 97
```

Q7: Write a python program to calculate the square root of a number.

```python
import math # importing the math module
a=int(input("Enter the Number :")) #Taking number from user
print("Square root of ",a," is :",math.sqrt(a)) #Calculating Square root and Printing
```

```
Enter the Number :50
Square root of  50  is : 7.0710678118654755
```

Q8: Write a python program to generate a random number between 0 and 15.

```python
import random # importing the random module

print(random.randint(0,15)) #printing Random value using randint function
```

```
8
```

Q9: Take a list of 10 numbers of your choice. Write a python program to print the following:

a. Print all the elements after 5th index

b. Print all the elements before 6th index

c. Print all the elements between 2nd and 8th indices

```python
num=[1,2,3,4,5,6,7,8,9,10]
print("Elements After 5th index :",num[5:])
print("Elements Before 6th index :",num[:6])
print("Elements Between 2nd and 8th indices :",num[1:8])
```

```
Elements After 5th index : [6, 7, 8, 9, 10]
Elements Before 6th index : [1, 2, 3, 4, 5, 6]
Elements Between 2nd and 8th indices : [2, 3, 4, 5, 6, 7, 8]
```

Q10: Write a python program to find the area of triangle.

```python
a=int(input("Enter the Height of Triangle :"))
b=int(input("Enter the Base of Triangle :"))
print(0.5*a*b)# As area of the traingle is 1/2 x Base x Height
```

```
Enter the Height of Triangle :10
Enter the Base of Triangle :7
35.0
```