BSIT 1

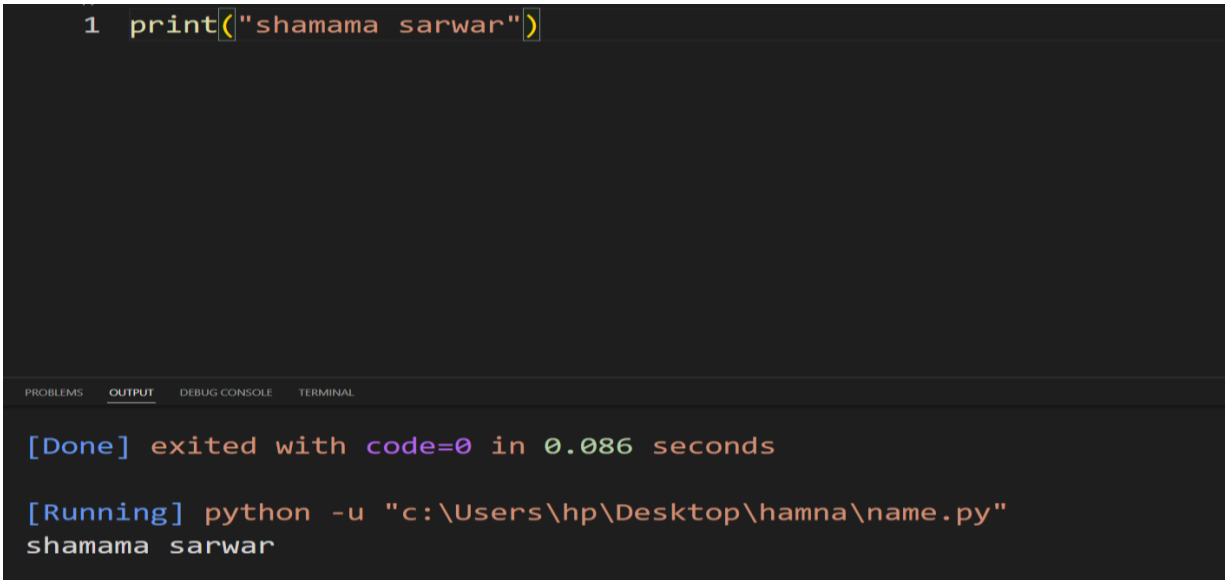
SEMESTER

PYTHON-(.PY)

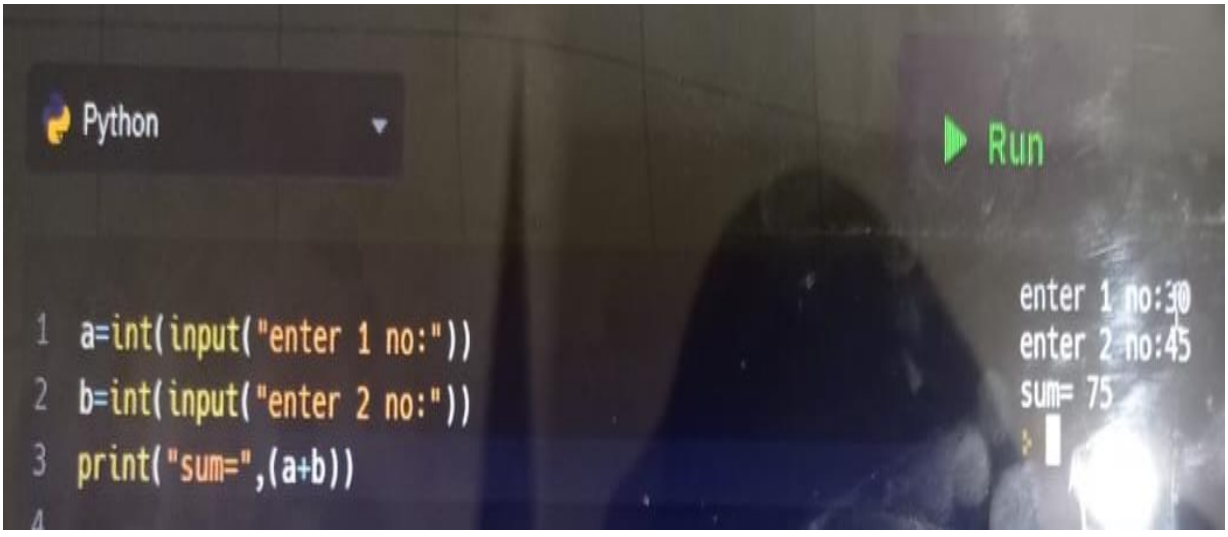
Prof:Ahmad Nawaz ul Ghani

Topic wise Programs:

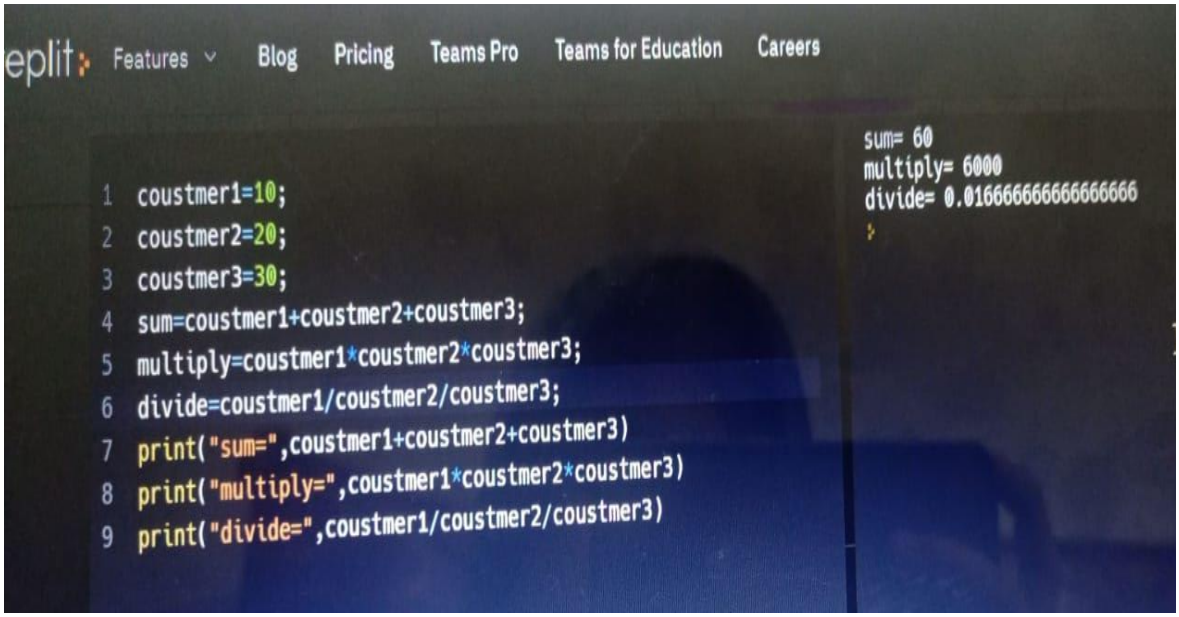
Question no 1: Write a program to input name:



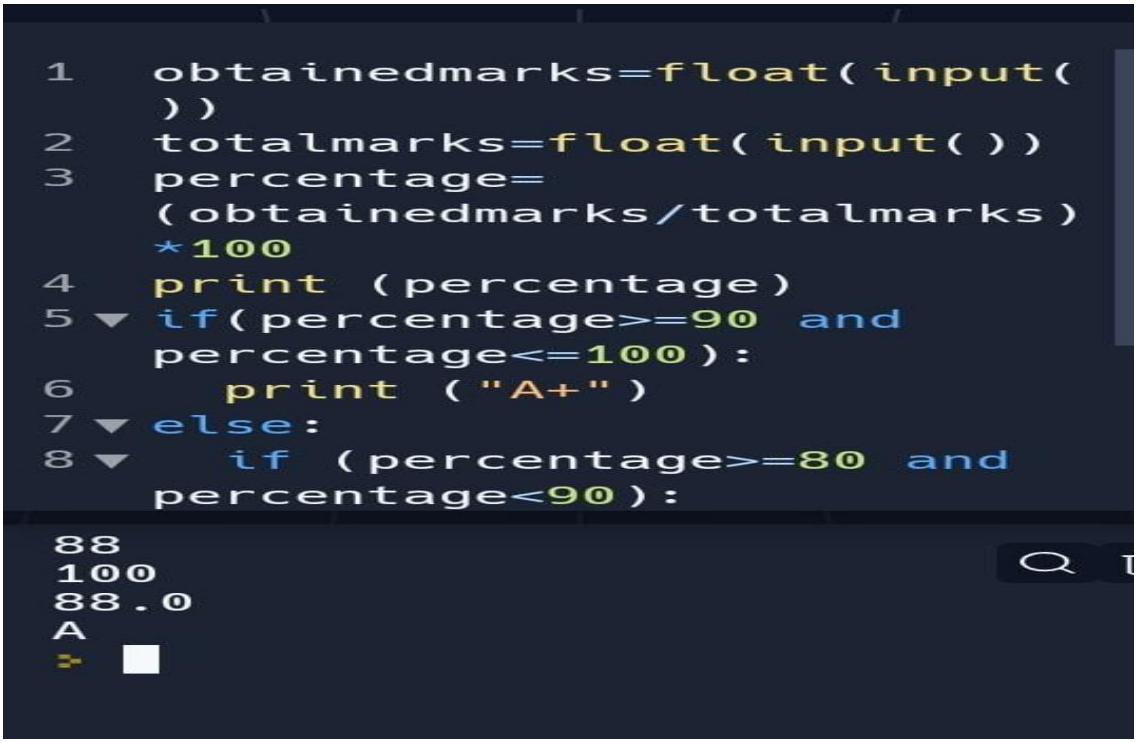
Question no 2: Write a program to take input from user show sum:



Question no 3: Write a program for multiply, divide, sum by taking input from user.



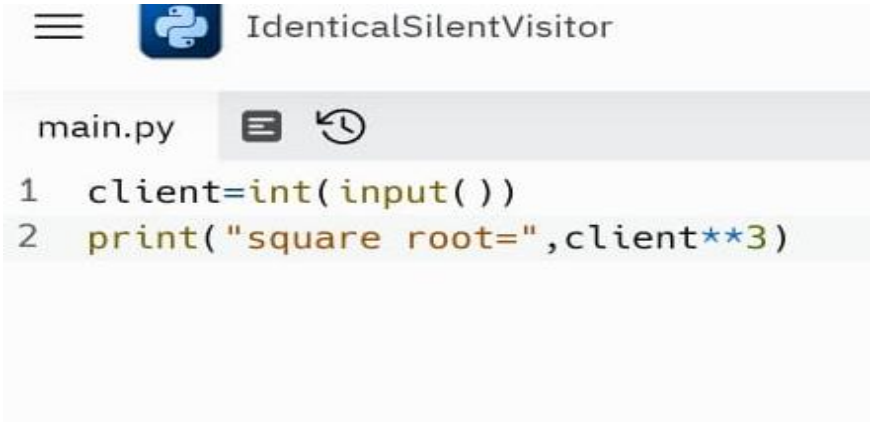
Question no 4: Write a program to take percentage and Grade.



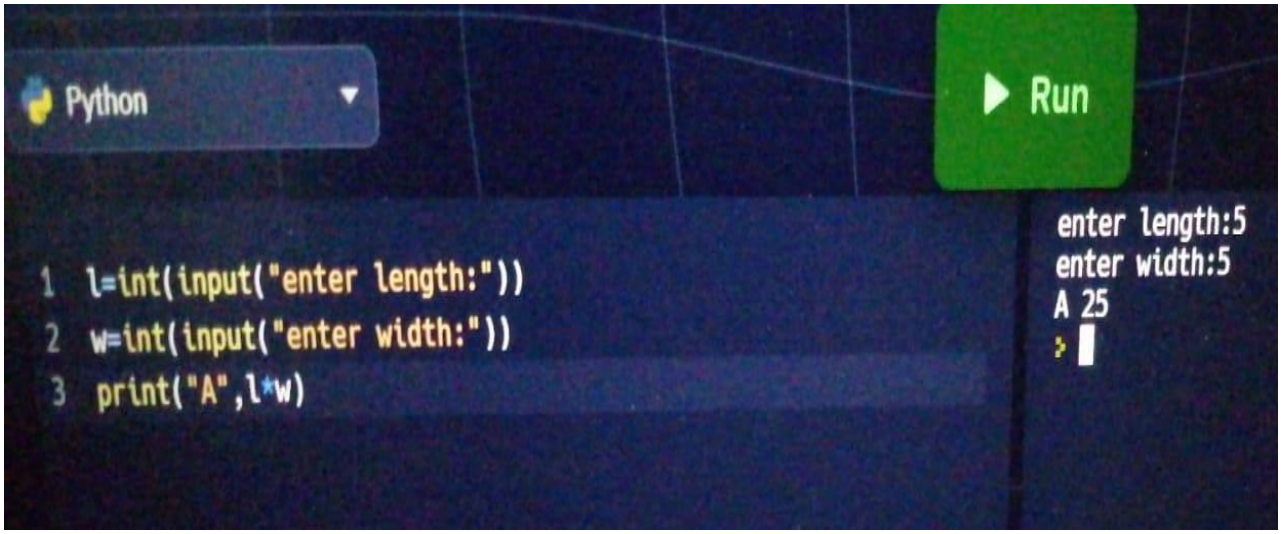
```
 5 if(percentage>=90 and
   percentage<=100):
 6     print ("A+")
 7 else:
 8     if (percentage>=80 and
   percentage<90):
 9         print("A")
10     else:
11         if(percentage>=70 and
       percentage<80):
12             print("B")
13         else:
14             print("F")
```

```
88
100
88.0
A
>
```

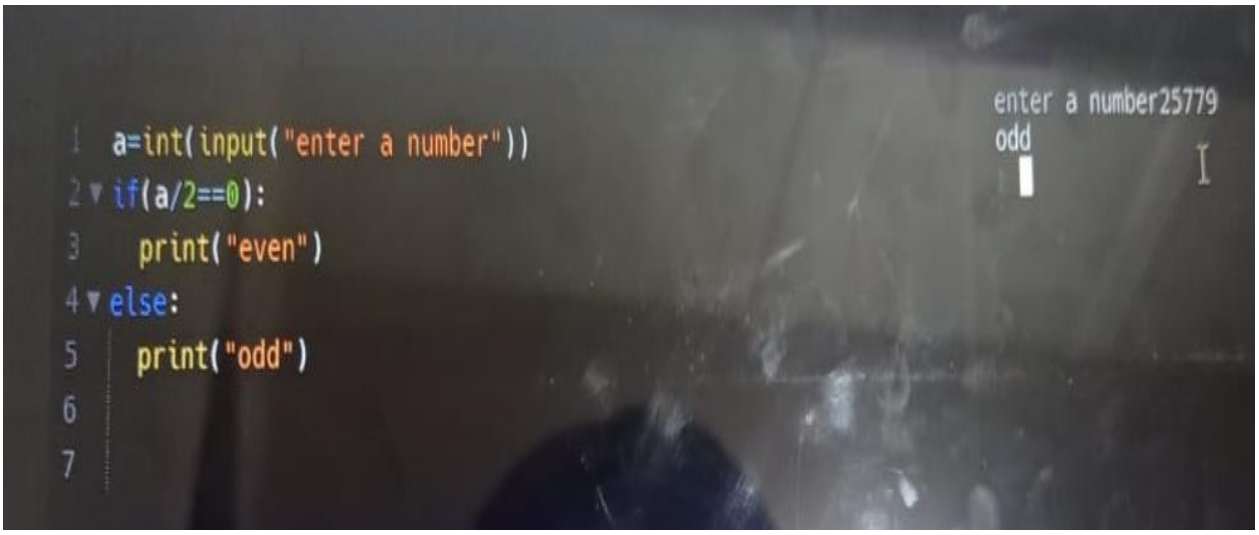
Question no 5: Program for square root:



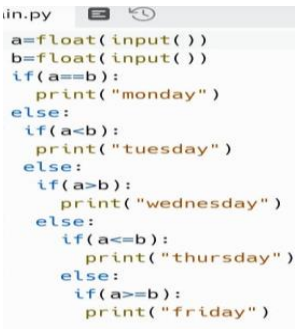
Question no 6: program for Area:



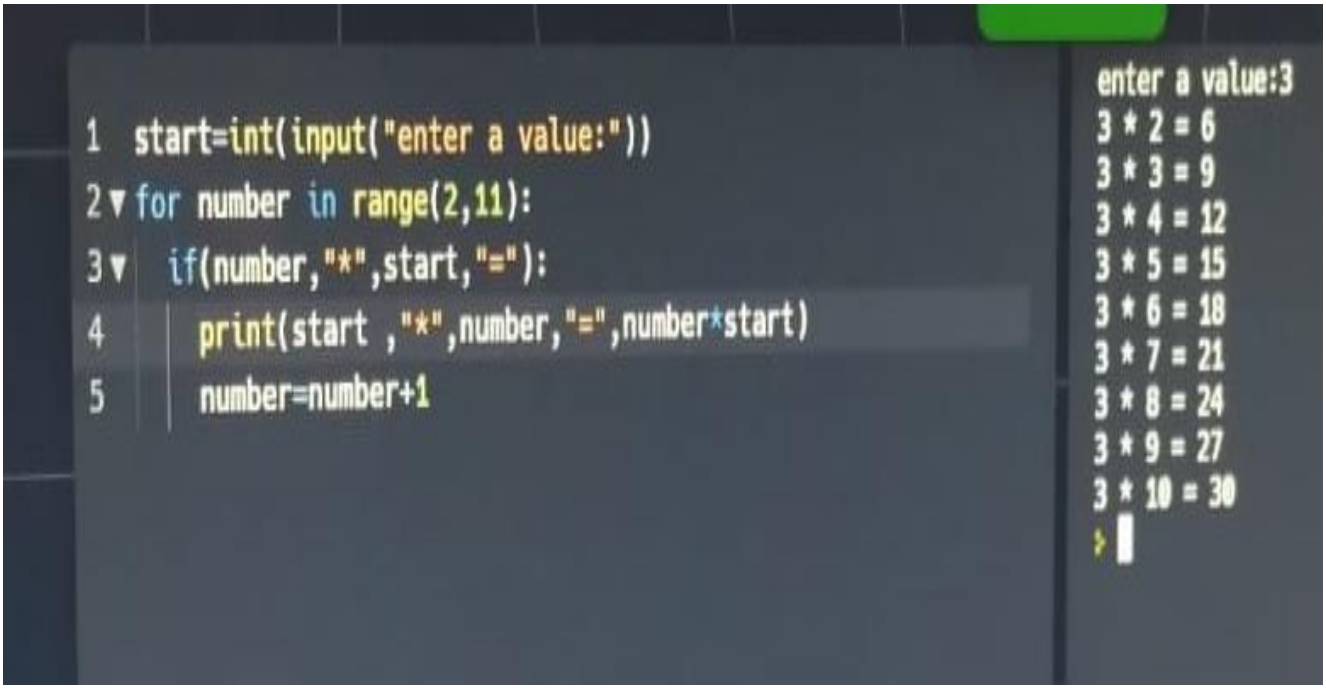
Question no 7: Program for Even or odd:



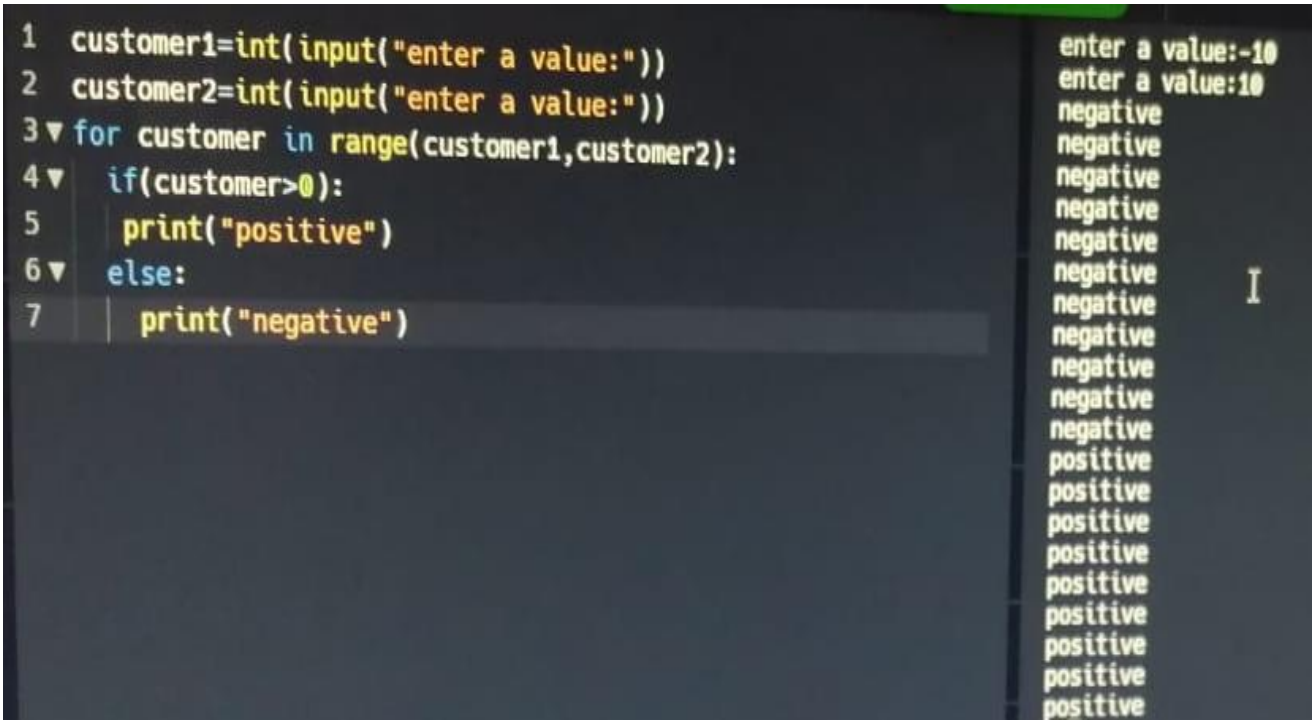
Question no 8: Print days of week using if else:



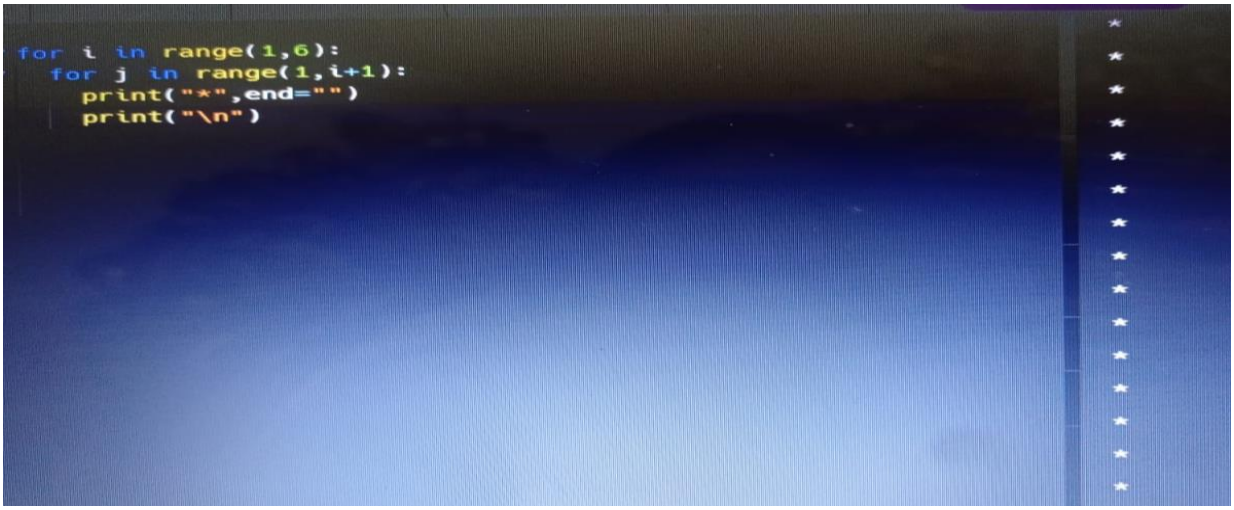
Question no 9: program for table using for loop.



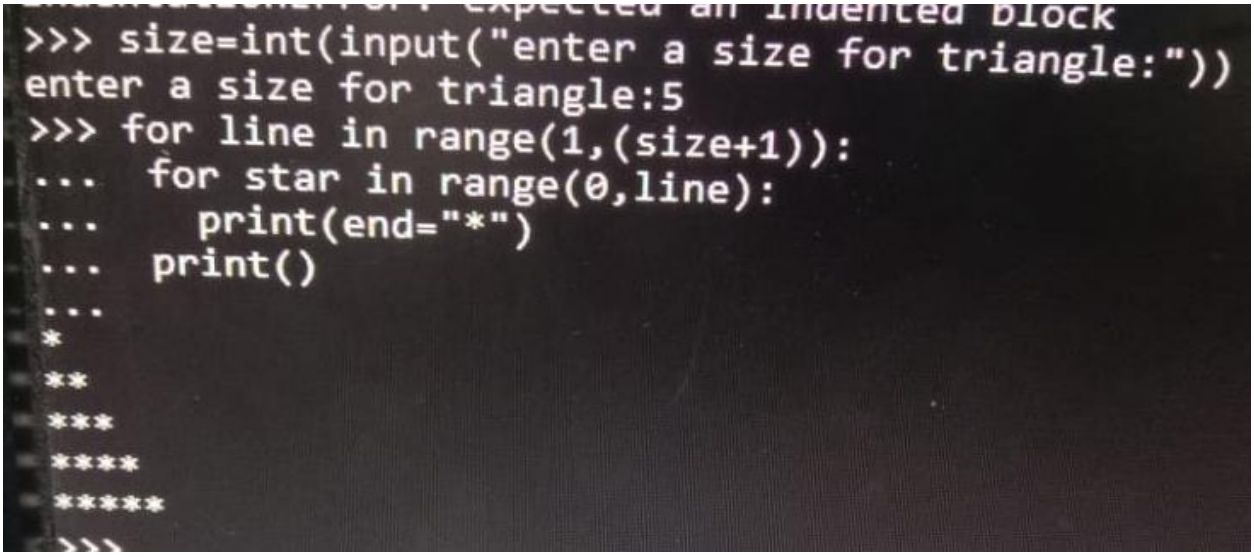
Question no 10: program for positive and negative using loop.



Question no 11: program for print stars in one line.



Question no 11: program for right triangle using loop .



```
>>> size=int(input("enter a size for triangle:"))
enter a size for triangle:7
>>> for line in range(1,(size+1)):
...     for space in range(0,((size+1)-line)):
...         print(end=" ")
...     for space in range(0,line):
...         print(end="*")
...     print()
...
       *
      **
     ***
    ****
   *****
  ******
 *******
```

Question no 12: program for calendar.

```
1 #program to display calendar
2 import calendar
3 year=2022
4 month=7
5 print(calendar.month(year,month))
6 print('10 is my birth date')
```

```
    July 2022
Mo Tu We Th Fr Sa Su
                1  2  3
 4  5  6  7  8  9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

10 is my birth date
>
```

Question no 13: program for game rock paper scissor.

```
1  #program for Rock Paper Scissor game by using if-else if
   statment.
2  party1=int(input("enter a value:"))
3  party2=int(input("enter a value:"))
4  if(party1==party2):
5      print("tie")
6  elif(party1=="rock"):
7      if(party2==scissor):
8          print("rock smashes scissor!you win!")
9  elif(party1=="paper"):
10     if(party2=="rock"):
11         print("scissor cuts paper!you loss!")
12 elif(party1=="paper"):
13     if(party2=="scissor"):
14         print("Scissor cuts paper!You win!")
15 else:
16     print("Rock smashes scissor! you lose!")
```

```
enter a value:45
enter a value:64
Rock smashes scissor! you lose!
>
```

Question no 14: program to check type of variable.

```
#program to check type of variable
a=7.5
print(type(a))
```

```
<class 'float'>
```

Question no 15: program to check the length of variable.

```
1  #check length of variable
2  b= [1,2,3,4,5,6,7,8,9,10]
3  print(len(b))
```

```
10
```

Question no 16: use of slicer in program.

```
1  #python code to slicing value
2  #by using slicer we able to skip value
3  a="hamna"
4  c=a[0:4:1]
5  print(c)
```

```
hamn
```

Question no 17: python code slicing with double ratio.

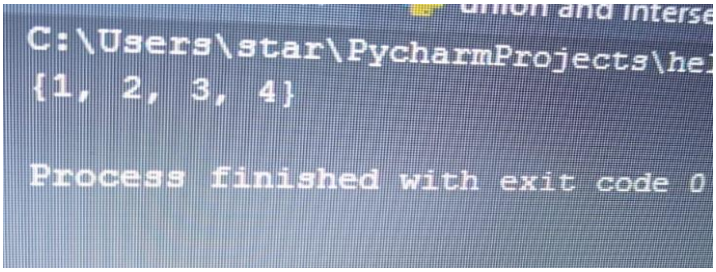
main.py

```
1  #python code to slice with double ratio
   sign
2  a="hamna"
3  #0 specify the 1 number
4  #and 3 number can be taken after taking
   previous value
5  c=a[0::3]
6  print(c)
7
```

```
hn
```

Question no 18: Python code for union of two sets.

```
'''union of two sets'''
a={1,2,3,}
b={2,3,4,1}
s=a.union(b)
print(s)
```

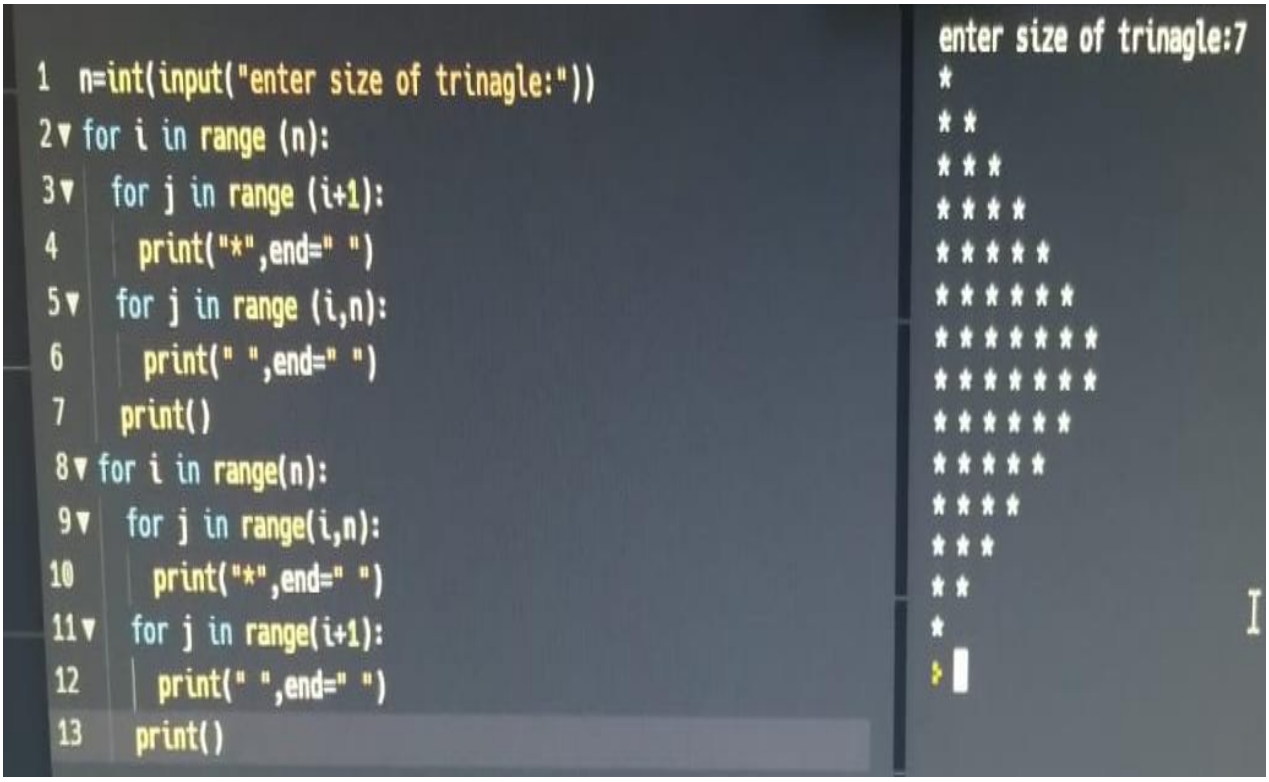


Question no 19: program for diamond.

main.py

```
n=5
for i in range(n-1):
  for j in range(i,n):
    print(" ",end=" ")
  for j in range(i):
    print("*",end=" ")
  for j in range(i+1):
    print("*",end=" ")
  print()
for i in range(n):
  for j in range(i+1):
    print(" ",end=" ")
  for j in range(i,n-1):
    print("*",end=" ")
  for j in range(i,n):
    print("*",end=" ")
  print()
```

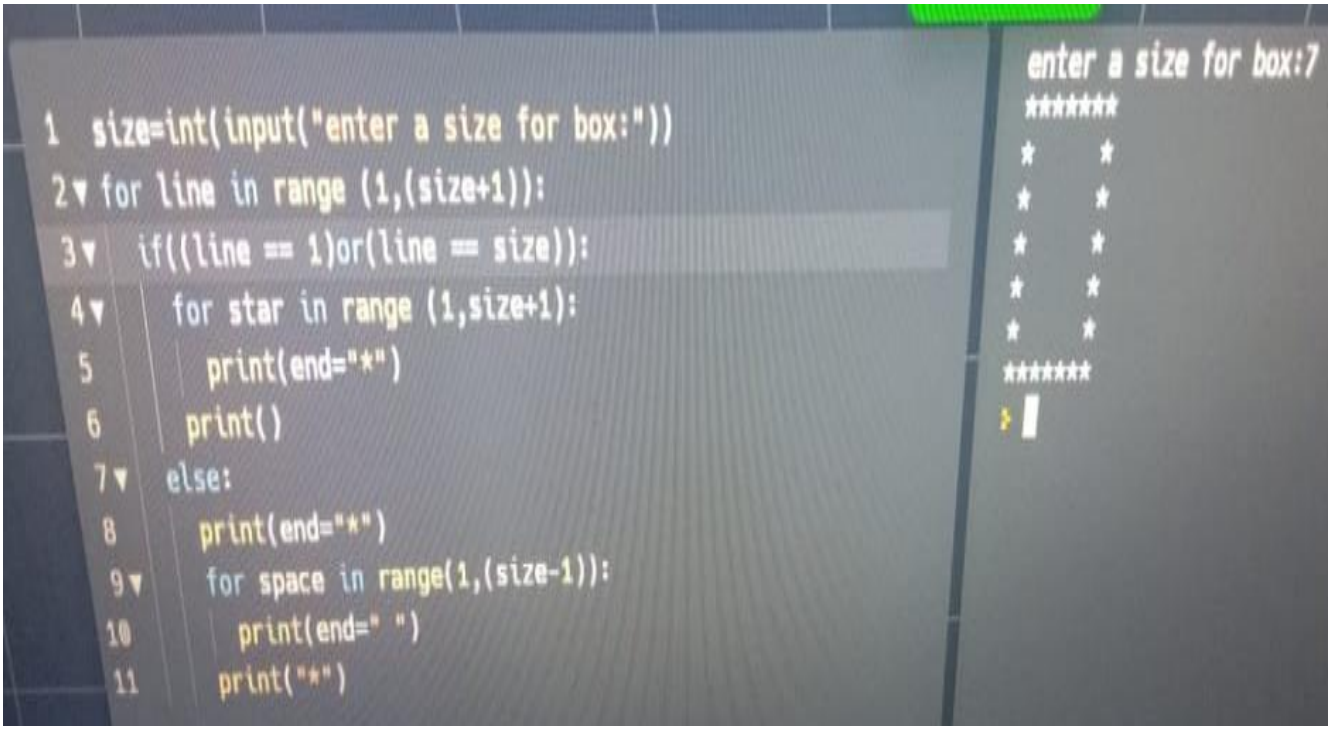
Question no 20: Program for half diamond.



```
n=int(input("enter size of trinagle:"))
for i in range (n):
  for j in range (i+1):
    print("*",end=" ")
  for j in range (i,n):
    print(" ",end=" ")
  print()
for i in range(n):
  for j in range(i,n):
    print("*",end=" ")
  for j in range(i+1):
    print(" ",end=" ")
  print()
```

```
enter size of trinagle:7
*
* *
* * *
* * * *
* * * * *
* * * * * *
* * * * * * *
* * * * * * *
* * * * * *
* * * * *
* * * *
* * *
* *
*
```

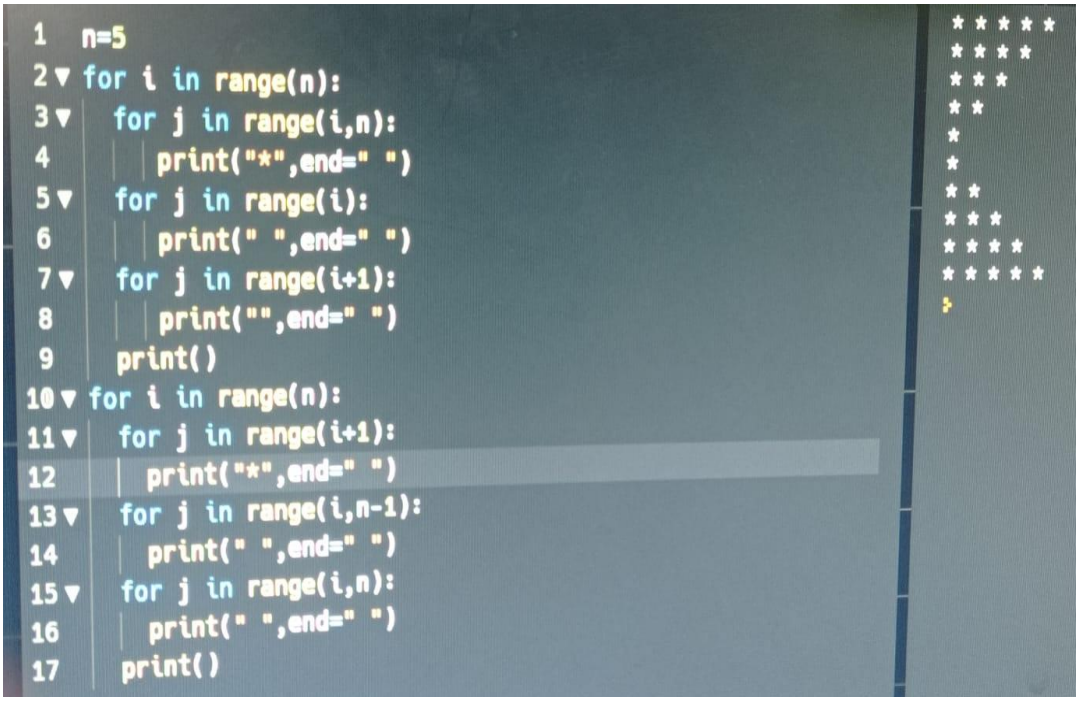
Question no 21: Program for vertical rectangle.



```
size=int(input("enter a size for box:"))
for line in range (1,(size+1)):
  if((line == 1)or(line == size)):
    for star in range (1,size+1):
      print(end="*")
    print()
  else:
    print(end="*")
    for space in range(1,(size-1)):
      print(end=" ")
    print("*")
```

```
enter a size for box:7
*******
*     *
*     *
*     *
*     *
*     *
*******
```

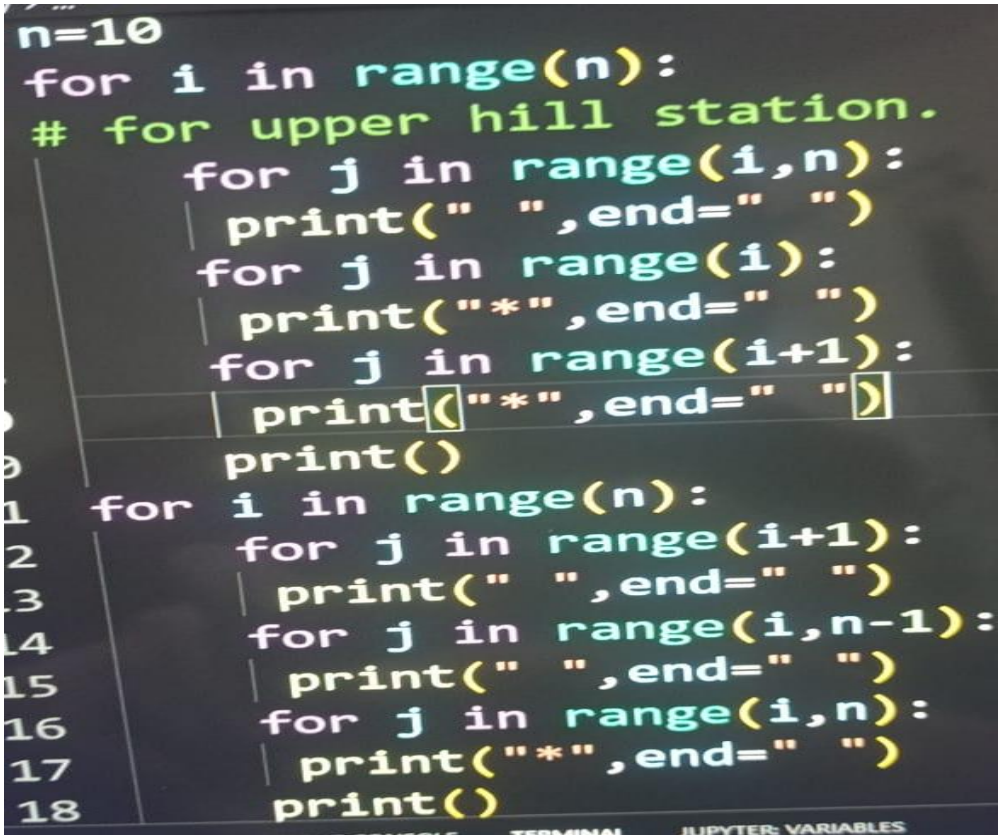
Question no 22: program for half Outer half diamond.



```
n=5
for i in range(n):
    for j in range(i,n):
        print("*",end=" ")
    for j in range(i):
        print(" ",end=" ")
    for j in range(i+1):
        print("",end=" ")
    print()
for i in range(n):
    for j in range(i+1):
        print("*",end=" ")
    for j in range(i,n-1):
        print(" ",end=" ")
    for j in range(i,n):
        print(" ",end=" ")
    print()
```

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

Question no 23: program for 1/3 diamond.



```
n=10
for i in range(n):
# for upper hill station.
    for j in range(i,n):
        print(" ",end=" ")
    for j in range(i):
        print("*",end=" ")
    for j in range(i+1):
        print("*",end=" ")
    print()
for i in range(n):
    for j in range(i+1):
        print(" ",end=" ")
    for j in range(i,n-1):
        print(" ",end=" ")
    for j in range(i,n):
        print("*",end=" ")
    print()
```

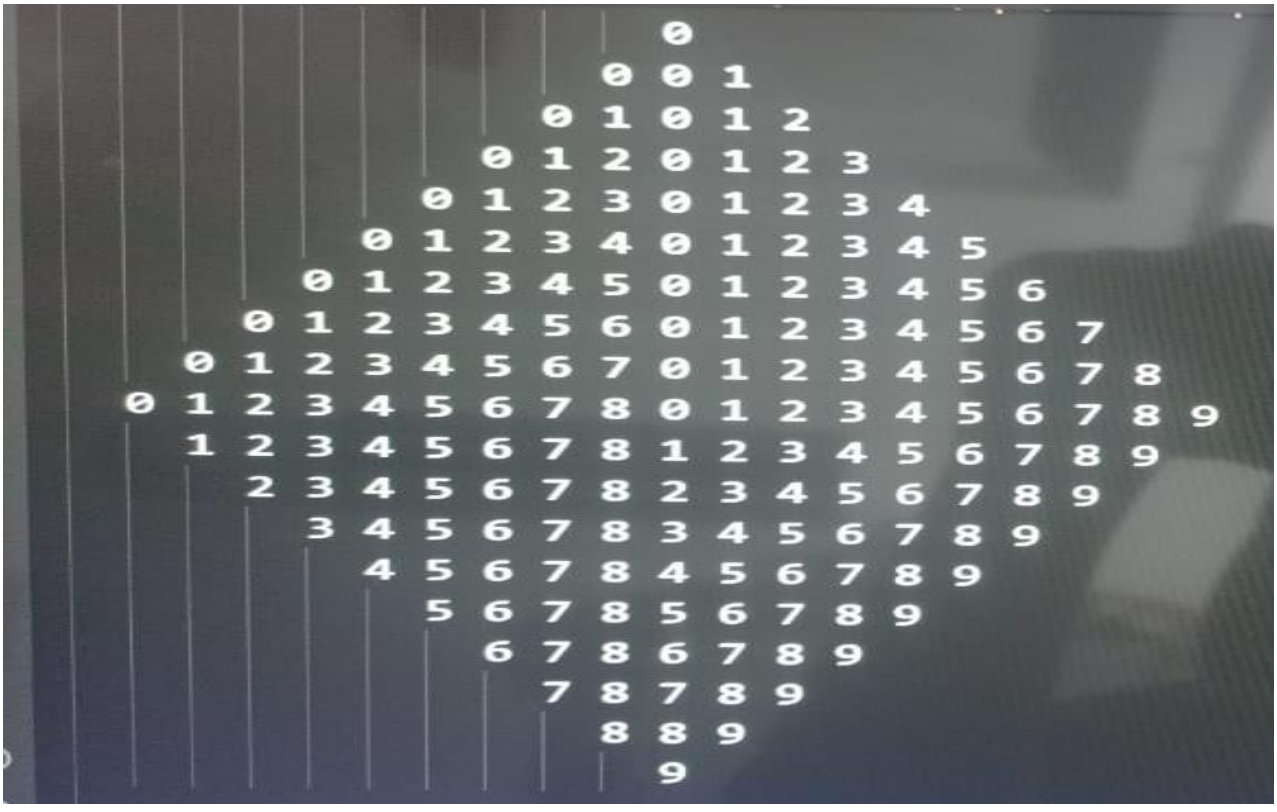
Question no 24: Program right triangle with counting.

```
a=5
for i in range (1,a+1):
    for j in range (1,i+1):
        print(j,end="")
    print()
```

```
1
12
123
1234
12345
```

Question no 25: Program for numbers diamond.

```
n=10
for i in range(n-1):
# code for outer hill station first (i-n) then apply increment in line.
    for j in range(i,n):
     print(" ",end=" ")
    for j in range(i):
     print(j,end=" ")
    for j in range(i+1):
     print(j,end=" ")
    print()
# code for lower hill station first increment then decrement then(i-n)
   #in line
for i in range(n):
    for j in range(i+1):
     print(" ",end=" ")
    for j in range(i,n-1):
     print(j,end=" ")
    for j in range(i,n):
     print(j,end=" ")
    print()
```



Question no 26: Program for take input from user store in index then tell even or odd.

```
size = int(input("Enter the size of the array: "))
array = [0,0,0,0,0,0,0,0,0,...]
for index in range(0 , size):
  print("Enter the value of " , index , " of yhe array:" , end = " ")
  array[index] = int(input())
for index in range(0, size):
  if(array[index] % 2 == 0):
    print("the value of the " , index , "of the array is even and the value is: " , array[index])
  else:
    print("the value on the " , index , "of the array is odd and the value is:" , array[index])
```

```
Enter the size of the array: 5
Enter the value of  0  of yhe array: 1
Enter the value of  1  of yhe array: 2
Enter the value of  2  of yhe array: 3
Enter the value of  3  of yhe array: 4
Enter the value of  4  of yhe array: 5
the value on the  0 of the array is odd and the value is: 1
the value of the  1 of the array is even and the value is:  2
the value on the  2 of the array is odd and the value is: 3
the value of the  3 of the array is even and the value is:  4
the value on the  4 of the array is odd and the value is: 5
```

Question no 27: Program use of append in array.

```
myArray = [0,0,0,0,0,0,0,0,0,0]
for index in range(0, 10):
  myArray[index]= (index + 1)* 2
myArray.append("PF")
myArray.append("Array")
for element in myArray:
  print(element)
```

```
2
4
6
8
10
12
14
16
18
20
PF
Array
```

Question no 28: program use of pop in code.

```
myArray = [0,0,0,0,0,0,0,0,0,0]
for index in range(0, 10):
 myArray[index]= (index + 1)* 2
myArray.append("PF")
myArray.append("Array")
removedItem = myArray.pop(0)
print("Removed Item:",
removedItem)
for element in myArray:
 print(element)
```

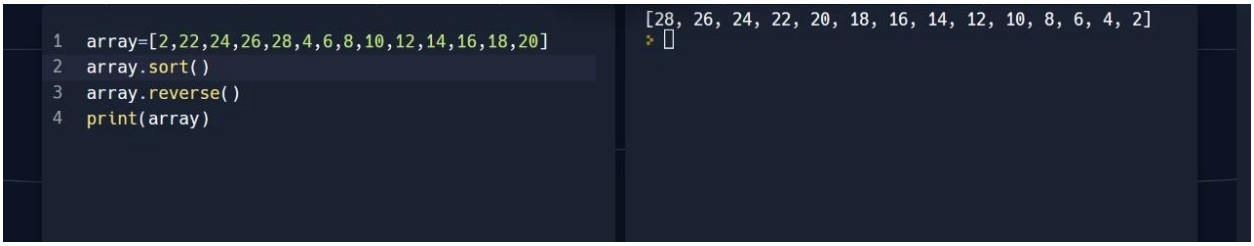
```
Removed Item: 2
4
6
8
10
12
14
16
18
20
PF
Array
```

Question no 29: code for sorting.

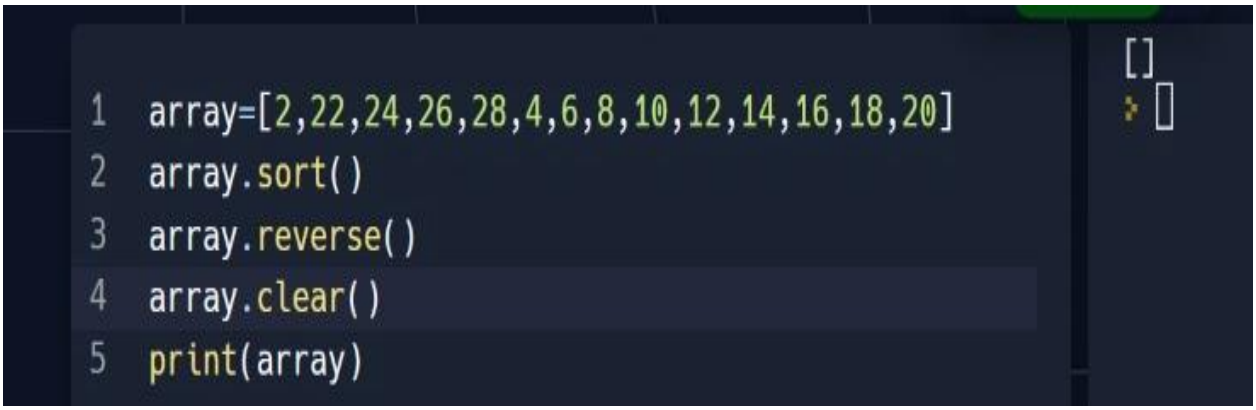
```
array=[2,22,24,26,28,4,6,8,10,12,14,16,18,20]
array.sort()
print(array)
```

```
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28]
```

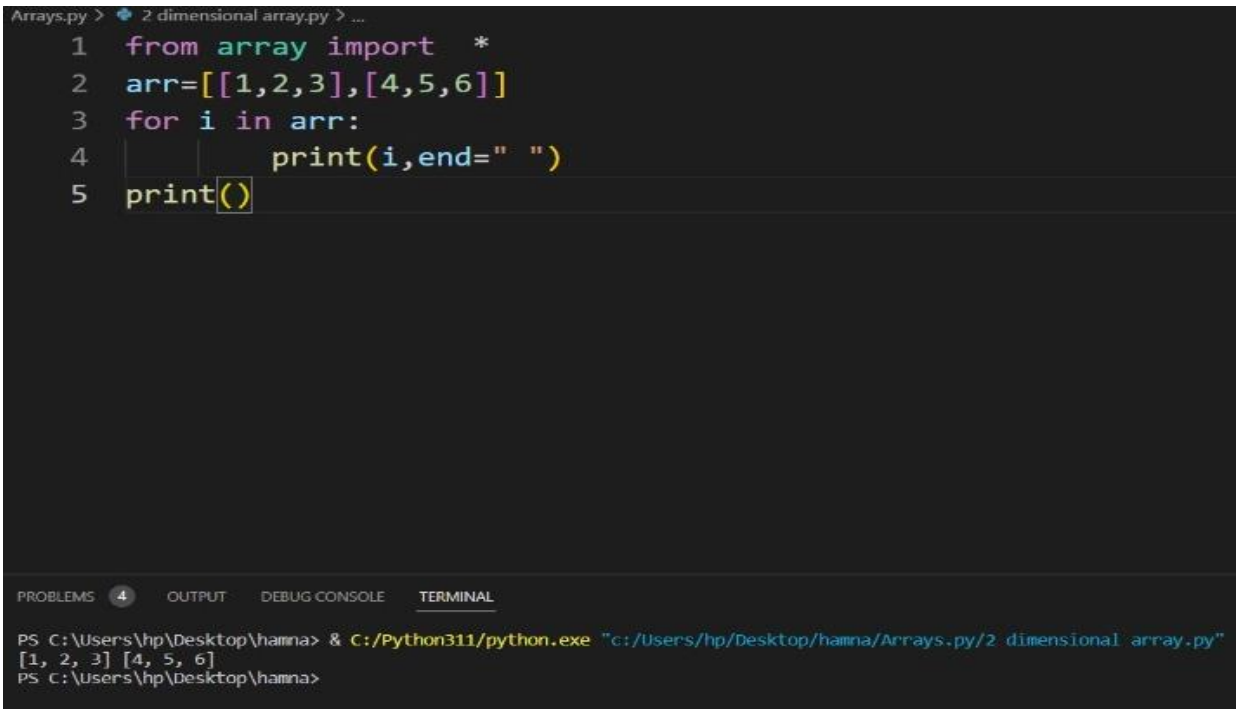
Question no 30: code for reverse.



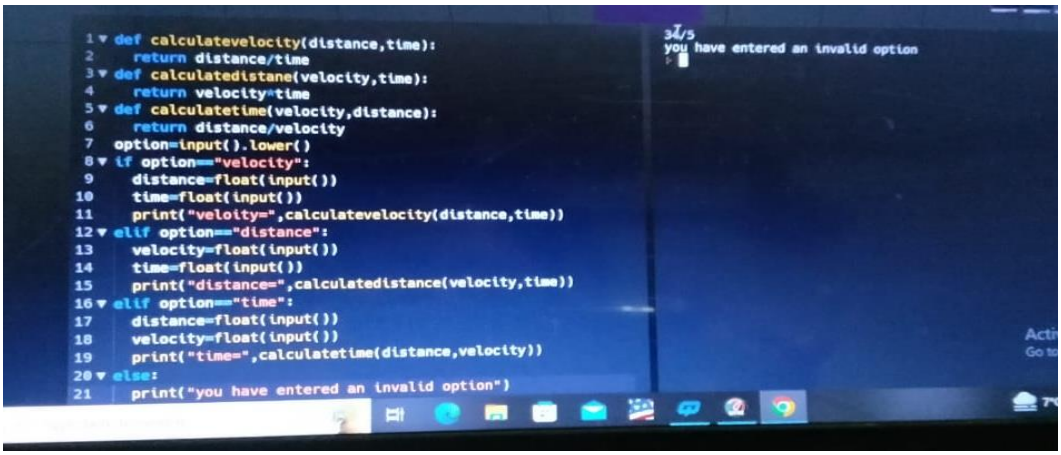
Question no 31:code for clear.



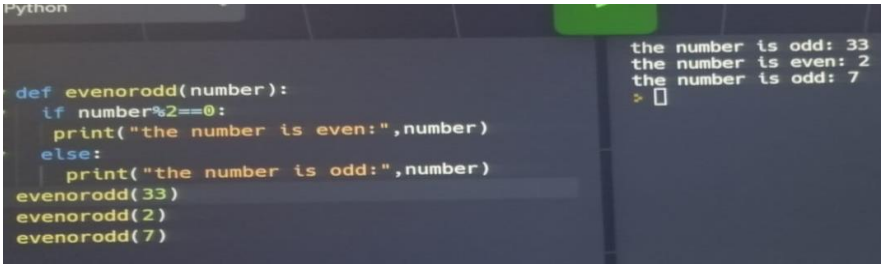
Question no 32: 2 dimensional array.



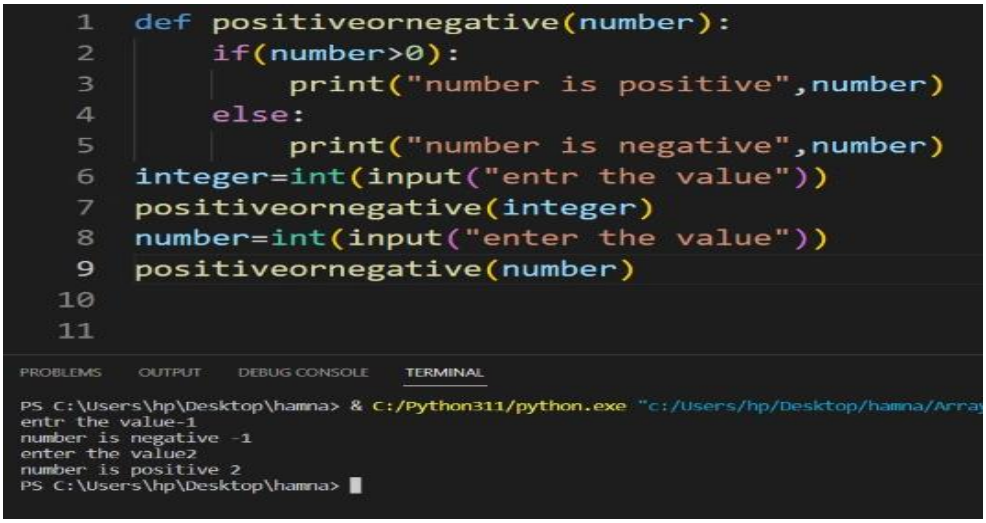
Question no 32: code for velocity, distance.



Question no 33: code for even or odd using function.



Question no 34: number is negative or positive using function.



Question no 35: display day in month using function.

```
def numberofdaysinmonth(monthname):
    if( monthname == "jan" or monthname == "march" or monthname == "may"
    or monthname == "july" or monthname == "aug" or monthname == "oct" or
    monthname == "dec"):
      return 31
    elif monthname == "feb":
     return 28
    elif monthname == "apr" or monthname =="june" or monthname == "sep"  or monthname == "
       return 30
    else:
       return 0
monthname=(str(input("enter the value:")))
days=numberofdaysinmonth(monthname)
if days == 0:
    print("you have entered an invalid month")
else:
    print(monthname,"has",days,"days")
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL                    Python

PS C:\Users\hp\Desktop\hamna> & C:/Python311/python.exe "c:/Users/hp/Desktop/hamna/Arrays.py/funtion program.py/funtion 7.py"
enter the value:dec
dec has 31 days
PS C:\Users\hp\Desktop\hamna>
```

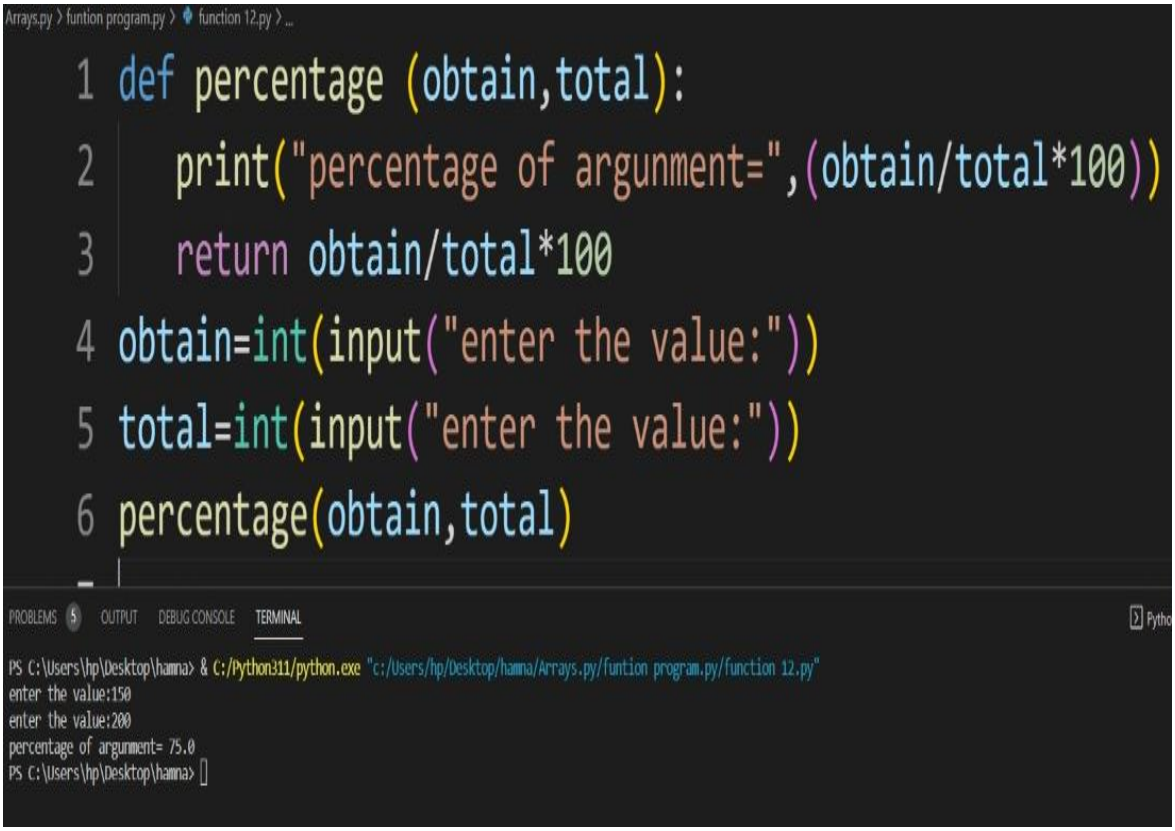
Question no 36: show sum using Function.

```
def sum (a,b):
    print(' Sum of {a} and {b}',(a+b))
    return a+b
a=float(input("enter the value:"))
b=float(input("enter the value:"))
sum(a,b)
```

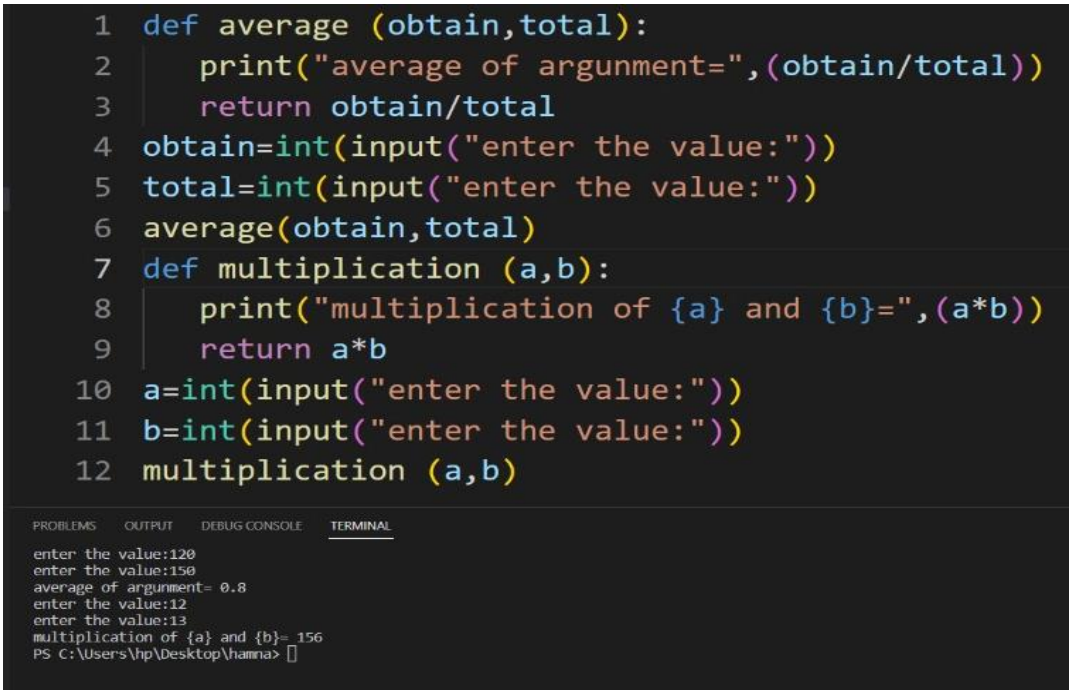
```
PROBLEMS 4  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\hp\Desktop\hamna> & C:/Python311/python.exe "c:/Users/hp/Desktop/hamna/Arrays.py/funtion program.py/function 10 .py"
enter the value:4.5
enter the value:6.8
 Sum of {a} and {b} 11.3
PS C:\Users\hp\Desktop\hamna>
```

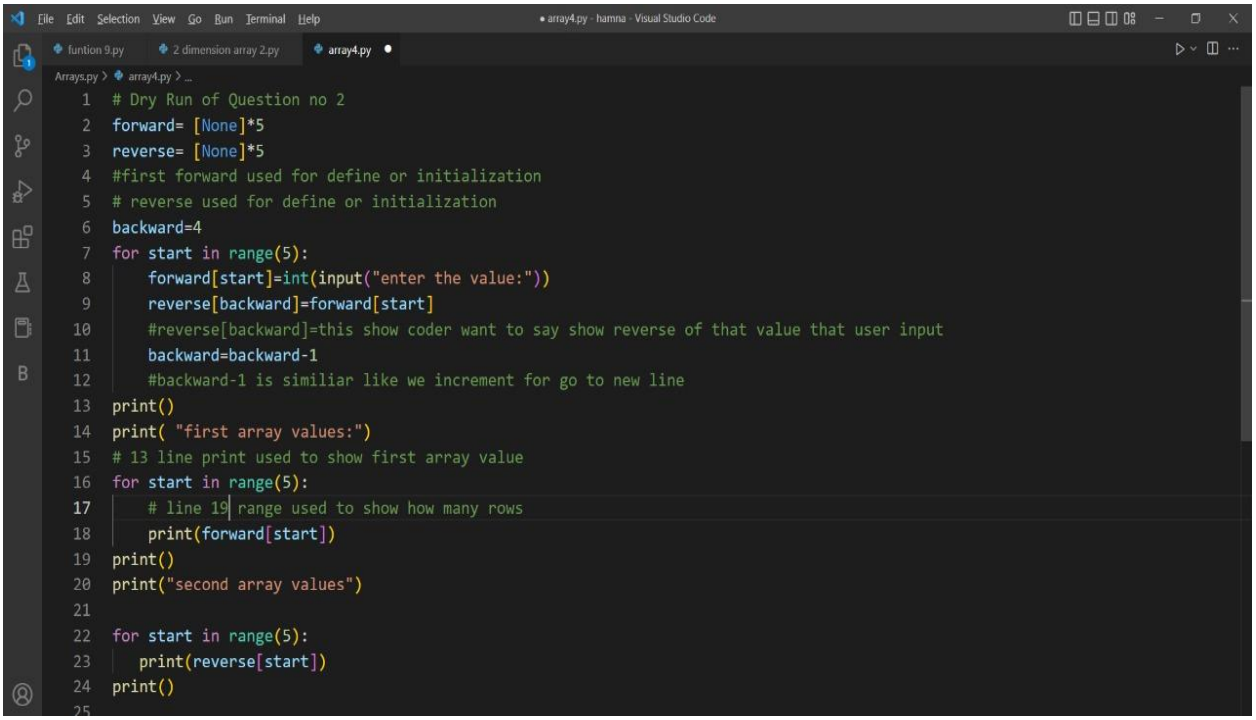
Question no 37: percentage using function.



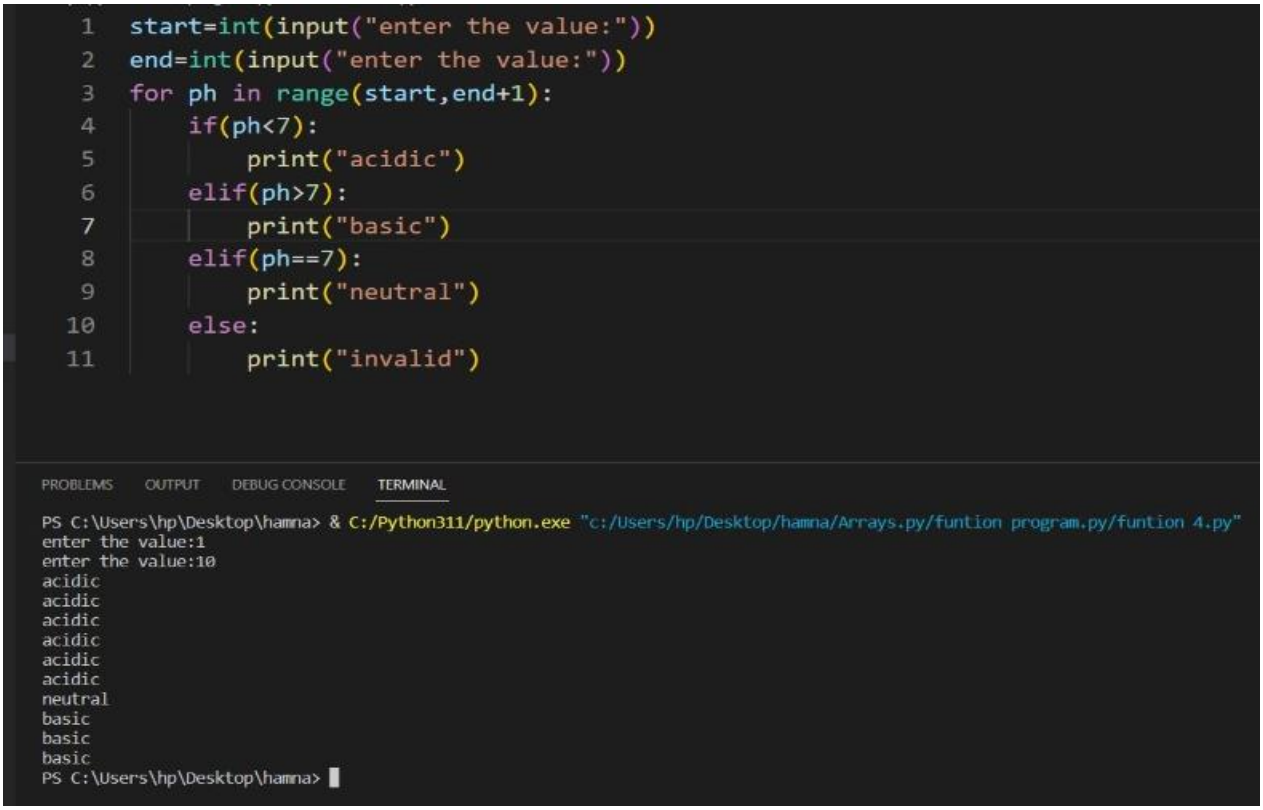
Question no 38: Average and multiplication using function.



Question no 39: Reverse of stored array 1 in second array.



Question no 40: Display ph value is acidic is basic or acidic.



Question no 41:Use of class for set age.

```python
class student:
    def setage(self,age):
        if age>0:
            self. age=age
        else:
            self. age =1
    def getage(self):
        return self.age
objectstudent=student()
objectstudent.setage(int(input("enter the age:")))
print("age",objectstudent.getage())

```

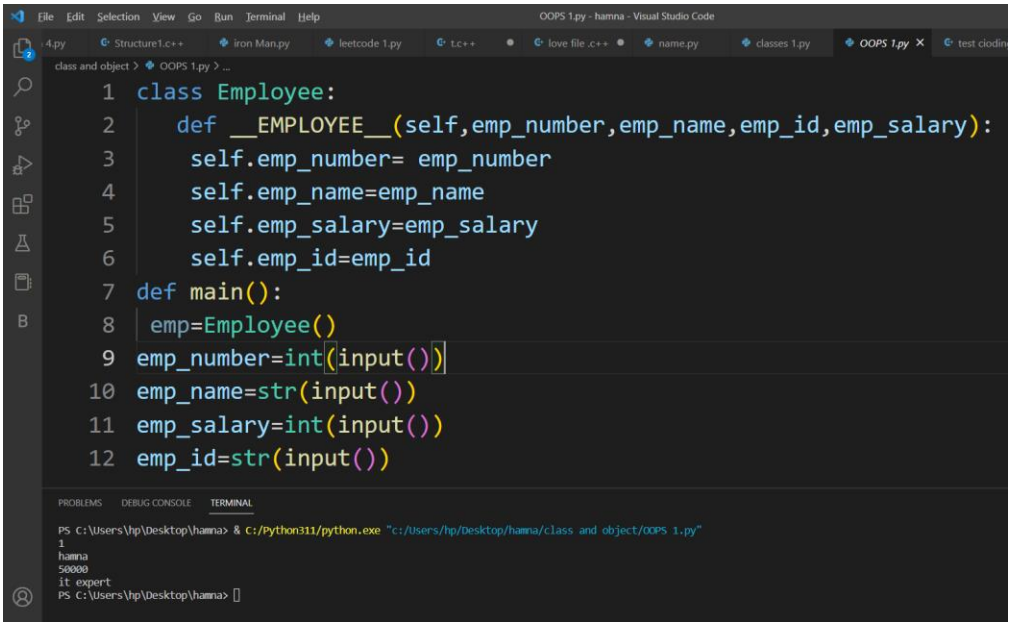
```
PS C:\Users\hp\Desktop\hamna> & C:/Python311/python.exe "c:/Users/hp/Desktop/hamna/class and object/classes 1.py"
enter the age:18
age 18
PS C:\Users\hp\Desktop\hamna>
```

Question no 42: Table using function.

```python
def table(number = 2,start = 1,end = 11):
    for multiplier in range(1,11):
        print(number,"*",multiplier,"=",(number*multiplier))
table()
table(4)
table(6)
table(10)
table(15)
```

```
PS C:\Users\hp\Desktop\hamna> & C:/Python311/python.exe "c:/Users/hp/Desktop/hamna/class and object/classes 2.py"
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10
2 * 6 = 12
2 * 7 = 14
2 * 8 = 16
2 * 9 = 18
2 * 10 = 20
4 * 1 = 4
4 * 2 = 8
4 * 3 = 12
```

Question no 43: program for classes name employee.



Question no 44: Program for Structures.