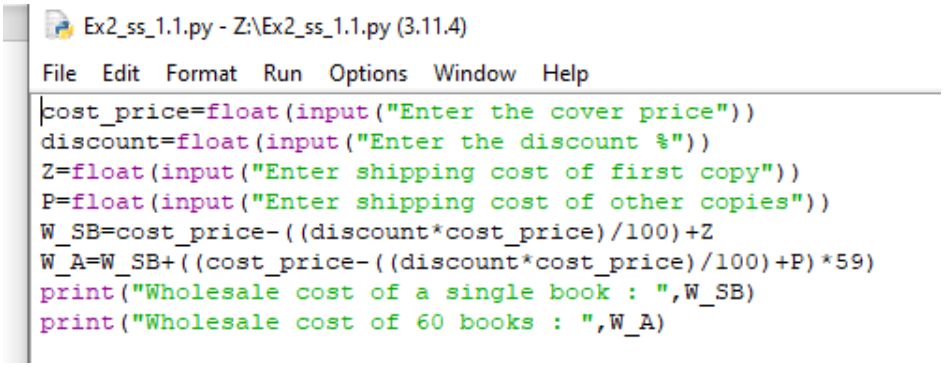
Assignment 2: Problem solving using Sequential statements

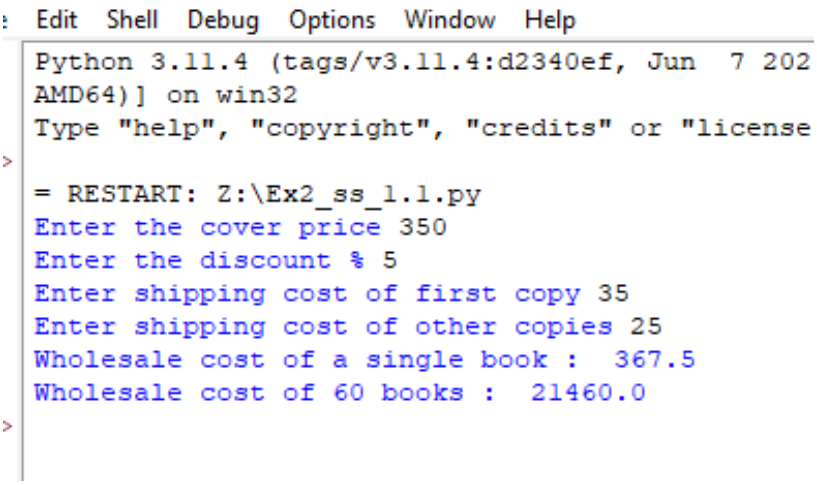
Solve the following problems using python:

1. A bookstore needs to buy 60 copies of a book from a publisher. Suppose the cover price of a book is X, but bookstores get a discount of Y%. Shipping costs incurs Z for the first ₹ ₹ copy and P for each additional copy. What is the total wholesale cost for 60 copies to be ₹ paid by the bookstore to the publisher?

   Source code:



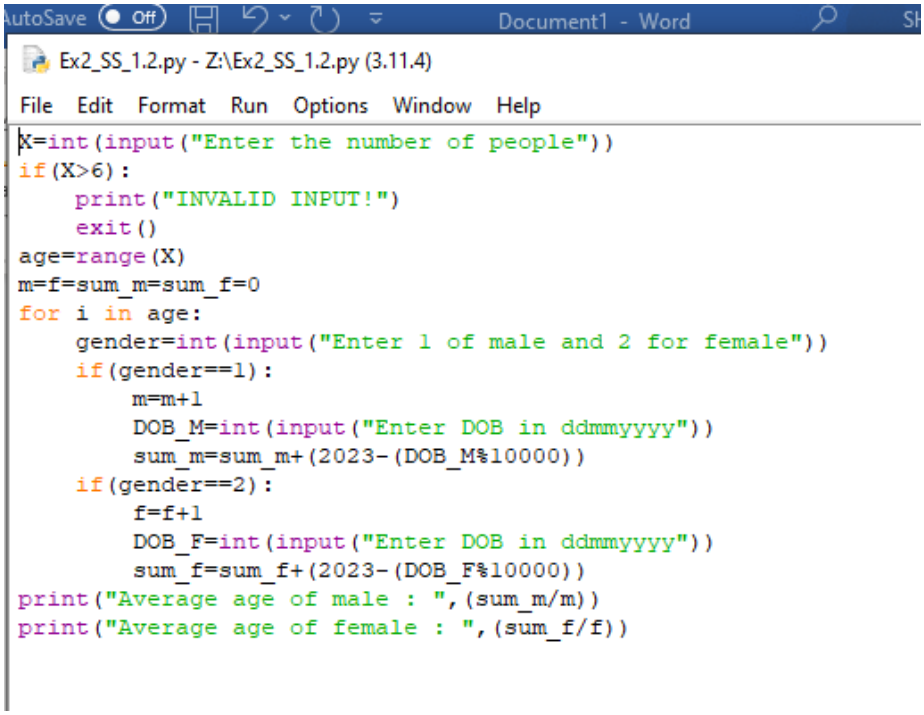
   Output:



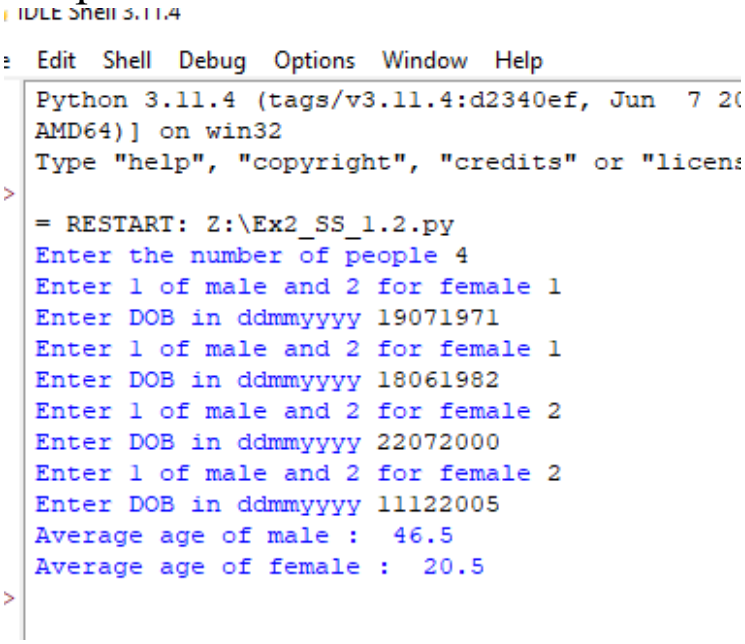
2. Assume the population of a city consists of X persons of different age groups. X includes both male and female. Public welfare department wants to find the average age of male and female. The department can obtain peoples date of birth from the corporation from which the age can

be calculated. (Note: Use only sequential statements to solve the problem. Consider X to be less than or equal to 6)

Source Code:



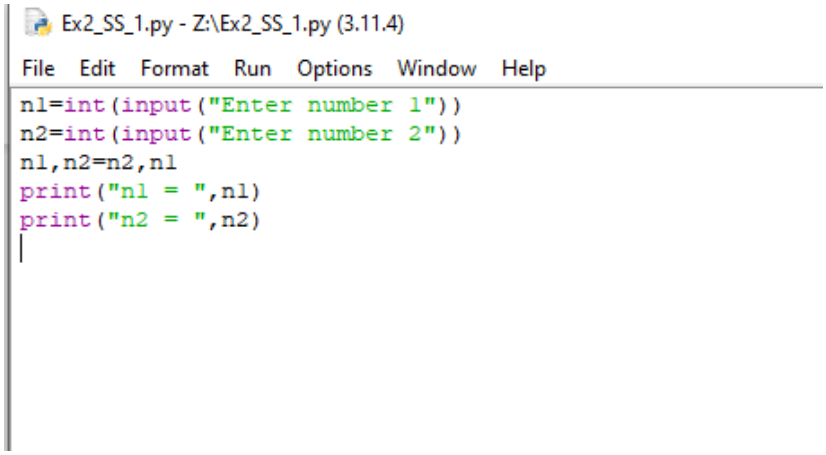
Output:



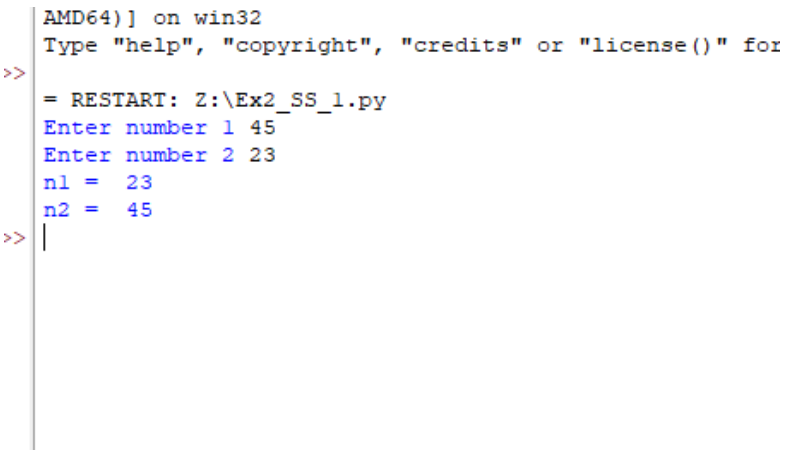
Additional problems using sequential statements for practice:

1. Swapping two numbers

   Source Code:



   Output:



2. Temperature conversion from Fahrenheit to Celsius (Hint: Fahrenheit = 9/5 x celsius + 32)

   Source Code:

Ex2_SS_2.py - Z:\Ex2_SS_2.py (3.11.4)

File Edit Format Run Options Window Help

```
farenheit=float(input("Enter Temperature in Farenheit "))
celsius=(farenheit-32)*(5/9)
print("Celsius = ",celsius)
```

Output:

IDLE Shell 3.11.4

e Edit Shell Debug Options Window Help

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MSC v.193
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more informatio
>
= RESTART: Z:\Ex2_SS_2.py
Enter Temperature in Farenheit 23
Celsius =  -5.0
>
```

3. Compute radius of a circle for the given area.

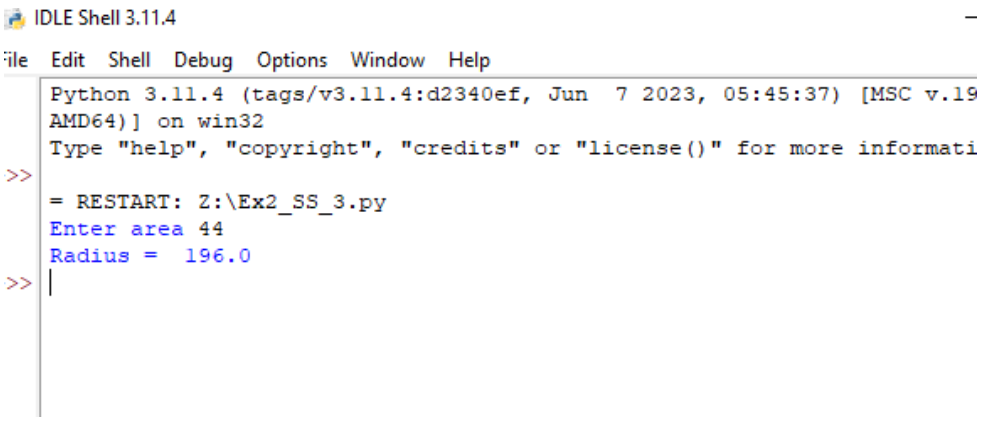
Source Code:

Ex2_SS_3.py - Z:\Ex2_SS_3.py (3.11.4)

File Edit Format Run Options Window Help

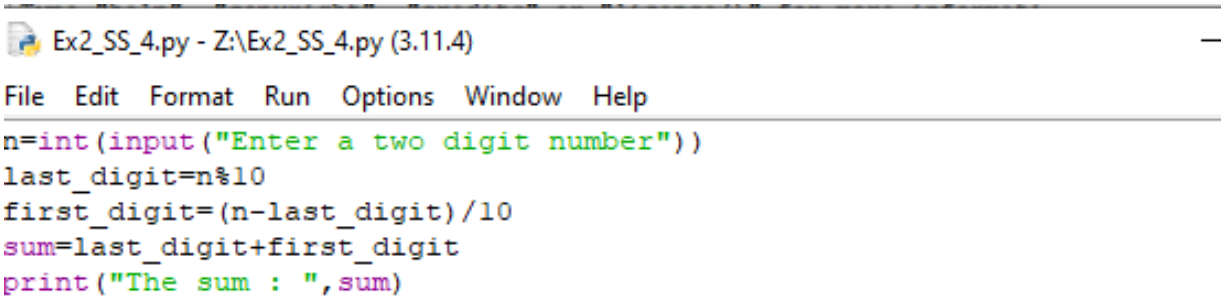
```
area=float(input("Enter area"))
radius=((area/22)*7)**2
print("Radius = ",radius)
```

Output:

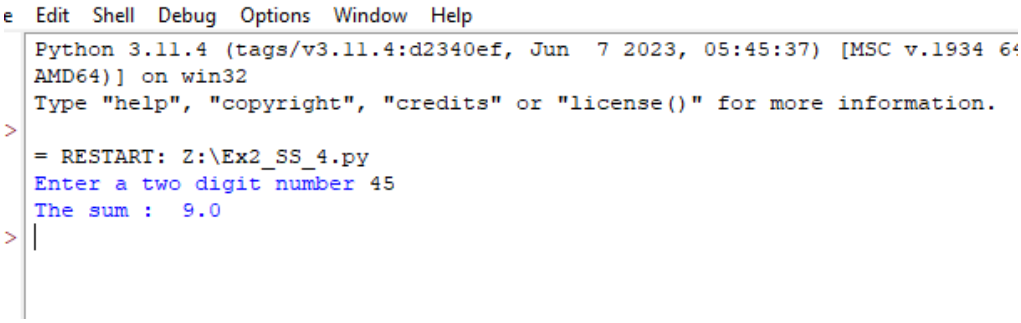


4. Write a program to reverse a two-digit number and print its sum.

Source code:



Output:



5. Compute the gross and net salaries of an employee for the given basic pay (BP) based on the allowances and deductions. Gross pay includes basic and all allowances, Net pay is the difference between gross pay and deductions. Allowances: DA = 62% of BP HRA = 8% of BP Deductions: Insurance = Rs. 2000 PF = 12% of BP

Source code:

Ex2_SS_5.py - Z:\Ex2_SS_5.py (3.11.4)

File Edit Format Run Options Window Help

```
basic_pay=float(input("Enter the basic pay"))
DA=(62*basic_pay)/100
HRA =(8*basic_pay)/100
insurance=2000
PF=(12*basic_pay)/100
gross_pay=basic_pay+DA+HRA
net_pay=gross_pay-insurance-PF
print("Gross Pay : ",gross_pay)
print("Net Pay : ",net_pay)
```

Output:

DLE Shell 3.11.4

Edit Shell Debug Options Window Help

```
Python 3.11.4 (tags/v3.11.4:d2340ef,
AMD64)] on win32
Type "help", "copyright", "credits"

= RESTART: Z:\Ex2_SS_5.py
Enter the basic pay 50000
Gross Pay :  85000.0
Net Pay :  77000.0
```

6. Read two complex numbers from the user and find their
   a. sum b. difference c. product

   Source code:

Ex2_SS_6.py - Z:\Ex2_SS_6.py (3.11.4)

File Edit Format Run Options Window Help

```
r1=int(input("Enter the real part of complex number 1"))
i1=int(input("Enter the imaginary part of complex number 1"))
r2=int(input("Enter the real part of complex number 2"))
i2=int(input("Enter the imaginary part of complex number 2"))
z1=complex(r1,i1)
z2=complex(r2,i2)
print("Sum : ",z1+z2)
print("Differnece : ",z1-z2)
print("Product : ",z1*z2)
```

Output:

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun  7 2023, 05:45:37) [MS
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more inf
>
= RESTART: Z:\Ex2_SS_6.py
Enter the real part of complex number 1 3
Enter the imaginary part of complex number 1 4
Enter the real part of complex number 2 5
Enter the imaginary part of complex number 2 6
Sum :  (8+10j)
Differnece :  (-2-2j)
Product :  (-9+38j)
>
```