Name - Yash Lakhtariya
Enrollment number - 21162101012
Branch - CBA Batch - 41
FP Practical 1

Institute of Computer Technology
B. Tech Computer Science and Engineering

Sub: (2CSE403) FUNCTIONAL PROGRAMMING

Practical 1

1. Shyam wants to know age of his grandfather who was born on 5th June,1947. Kindly help shyam to know how old is his grandfather? Also, print the calendar for the month and year on which shyam's grandfather was born.

Code :

```
import calendar
import datetime

bday = datetime.date(1947, 5, 6)
today = datetime.date.today()

age = int((today - bday).days / 365.2425)

print("\nThe age of Shyam's Grandfather born on {0} as per {1} is {2}
years".format(bday, today, age))

print("\nThe calendar of his birth month is : \n" +
calendar.month(bday.year, bday.month))
print("\nThe calendar of his birth year is : \n" +
calendar.calendar(bday.year))
```

Output :

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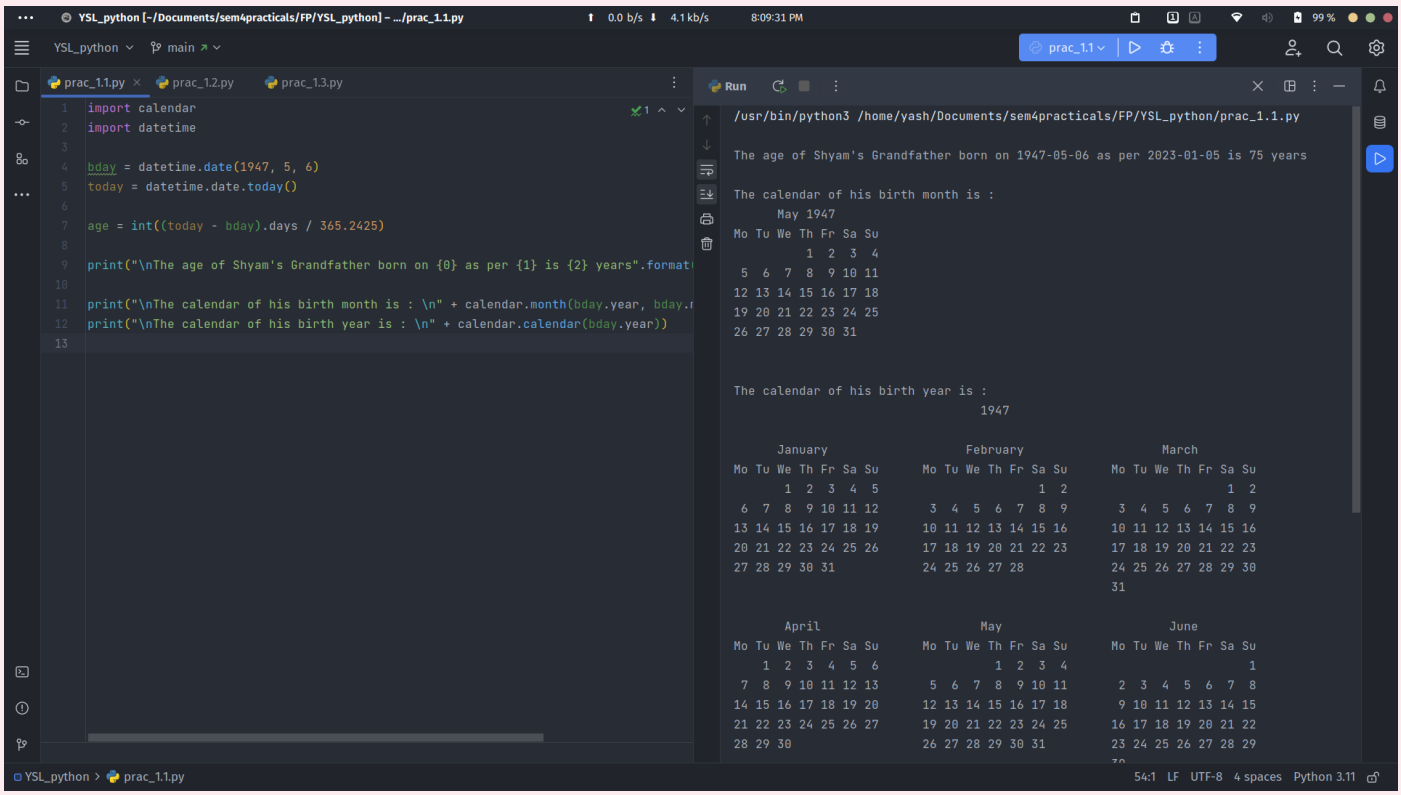

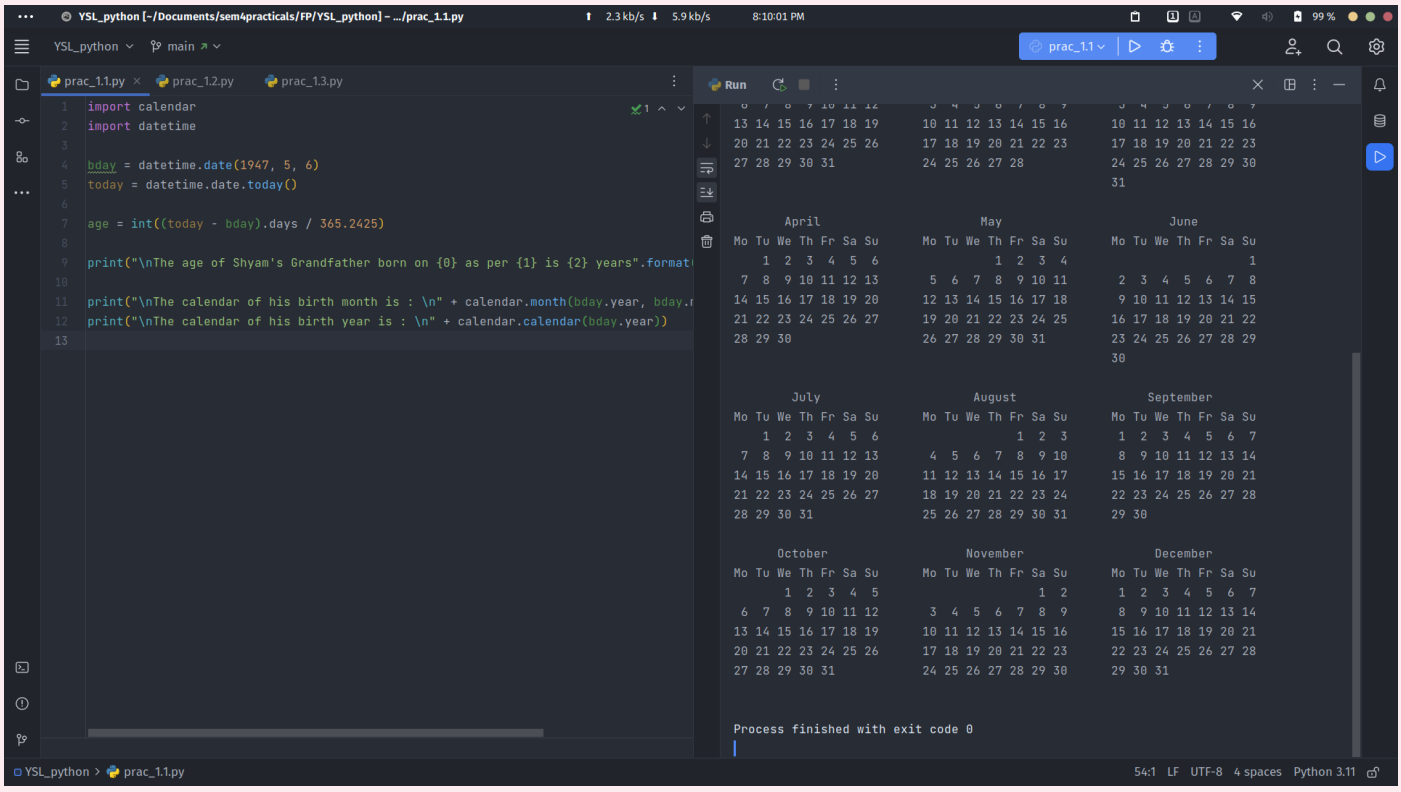

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2. In an online game competition, a registration form has to be filled up by user. Kindly help user to perform following operation while submitting form.

a. User have to submit their detail and a message should be displayed indicating filled details.
b. Also submitting time of the form should be noted indicating when the form was last edited.

Code : (With validity check for input data)

```
import datetime

print("\n\t\tRegistration Form for online game competition\n")

teamornot = int(input("Individual Application(type 1) or Team
Application(type 2)? \n"))

if teamornot == 1:
   name = str(input("Name : "))

   age = int(input("Age : "))
   while age < 12 or age > 100:
       age = int(input("Please input valid age between 12 and 100 : "))

   contact = int(input("Contact : "))
   while len(str(contact)) != 10:
       contact = int(input("Valid Contact : "))

   nofgms = int(input("Enter number of games you want to participate : "))
   games = []
   for i in range(0, nofgms):
       g = input('Game {} : '.format(i+1))
       games.append(g)
   timenow = datetime.datetime.now()
```

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```
    print("\n\tDetails given : \n")
    print("Name - {}".format(name))
    print("Age - {}".format(age))
    print("Contact - {}".format(contact))
    for i in range(0, nofgms):
        print("Game {0} - {1}".format(i+1, games[i]))
    print("Timestamp of filling form : {0}".format(timenow))

elif teamornot == 2:
    nofmbrs = int(input("Enter number of members in the team : "))

    lname = str(input("Leader Name : "))
    mbrname = [{'Leader Name': lname}]
    for i in range(0, nofmbrs-1):
        m = input("Name of Member {} : ".format(i+1))
        mbrname.append({'Member {} Name'.format(i+1): m})

    lage = int(input("\nLeader Age : "))
    while lage < 12 or lage > 100:
        lage = int(input("Valid Leader Age between 12 and 100 : "))
    mbrage = [{'Leader Age': lage}]
    for i in range(0, nofmbrs-1):
        a = int(input('Member {} Age : '.format(i+1)))
        while a < 12 or a > 100:
            a = int(input('Valid Age of Member {} : '.format(i+1)))
        mbrage.append({'Member {} Age'.format(i+1): str(a)})

    lcontact = int(input("\nLeader Contact : "))
    while len(str(lcontact)) != 10:
        lcontact = int(input("Valid Leader Contact : "))
    mbrcontact = [{'Leader Contact': str(lcontact)}]
    for i in range(0, nofmbrs-1):
        c = int(input("Member {} Contact : ".format(i+1)))
```

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```
        while len(str(c)) != 10:
            c = int(input("Valid Member {} Contact : ".format(i+1)))
        mbrcontact.append({"Member {} contact".format(i+1): str(c)})

    nofgms = int(input("\nEnter number of games you want to participate :
"))
    games = [{}]
    for i in range(0, nofgms):
        g = str(input('Game {} : '.format(i+1)))
        games.append({"Game {}".format(i+1): g})
    timenow = datetime.datetime.now()

    print("\n\tDetails given : \n")
    for i in range(0, nofmbrs):
        print(str(mbrname[i]).replace("'", "").replace("{",
"").replace("}", "").replace(":", " -"))
        print(str(mbrage[i]).replace("'", "").replace("{", "").replace("}",
"").replace(":", " -"))
        print(str(mbrcontact[i]).replace("'", "").replace("{",
"").replace("}", "").replace(":", " -"))
        print("\n")
    for i in range(1, nofgms+1):
        print(str(games[i]).replace("'", "").replace("{", "").replace("}",
"").replace(":", " -"))
    print("Timestamp of filling form : {0}".format(timenow))
else:
    print("Invalid Input!")
```

Output : (For individual and team registration)

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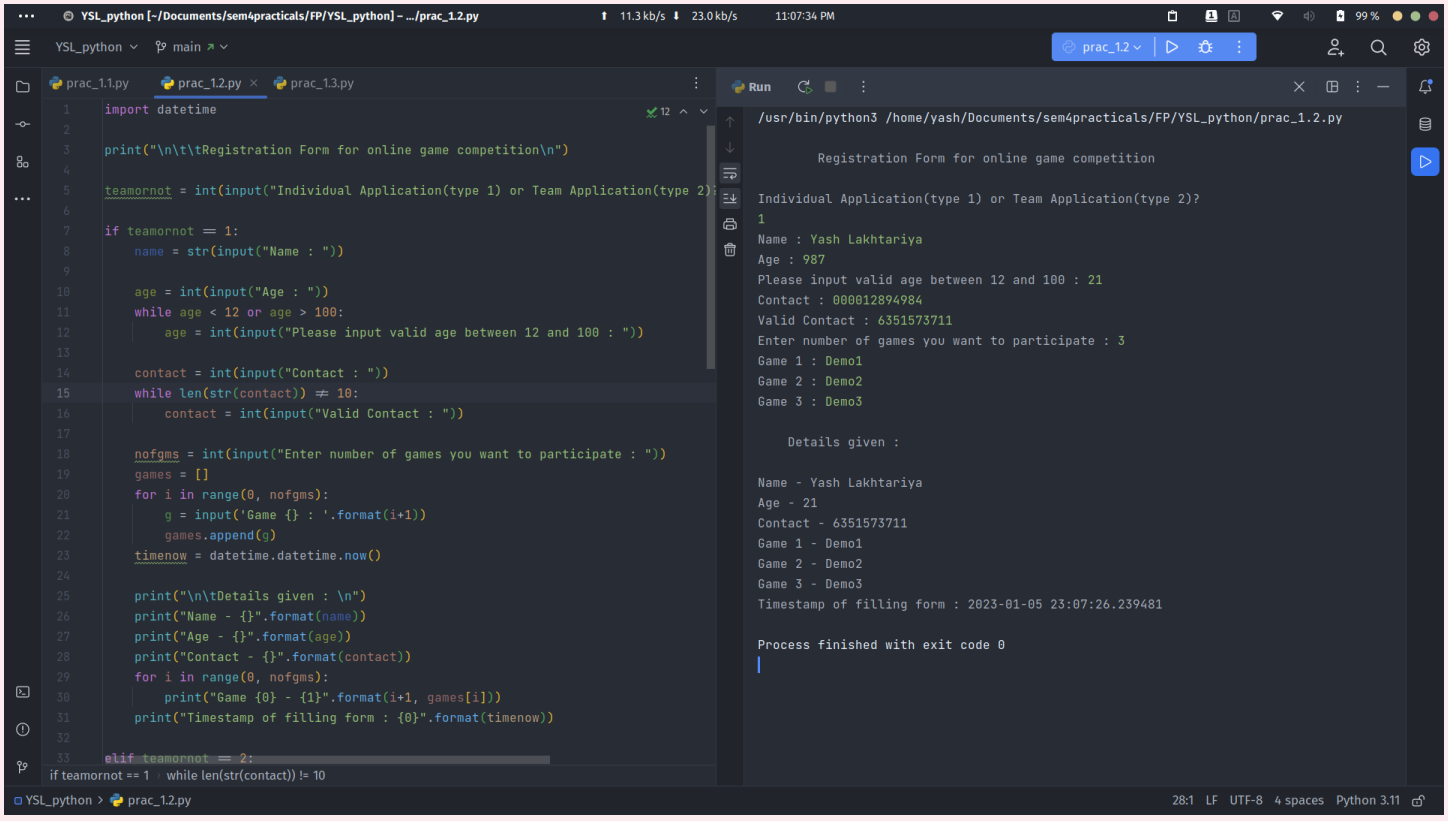
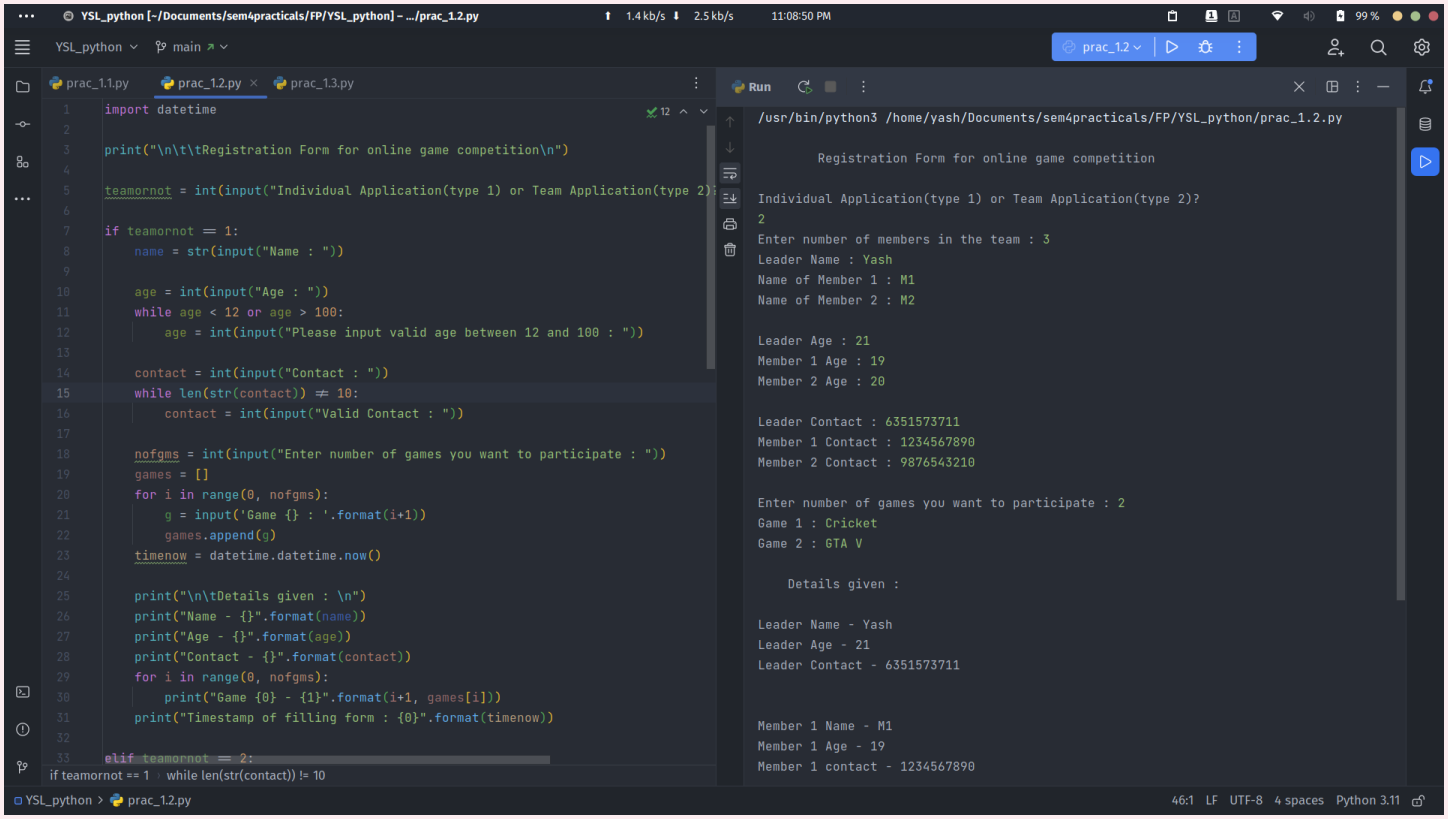


```python
import datetime

print("\n\t\tRegistration Form for online game competition\n")

teamornot = int(input("Individual Application(type 1) or Team Application(type 2)?"))

if teamornot == 1:
    name = str(input("Name : "))

    age = int(input("Age : "))
    while age < 12 or age > 100:
        age = int(input("Please input valid age between 12 and 100 : "))

    contact = int(input("Contact : "))
    while len(str(contact)) != 10:
        contact = int(input("Valid Contact : "))

    nofgms = int(input("Enter number of games you want to participate : "))
    games = []
    for i in range(0, nofgms):
        g = input('Game {} : '.format(i+1))
        games.append(g)
    timenow = datetime.datetime.now()

    print("\n\tDetails given : \n")
    print("Name - {}".format(name))
    print("Age - {}".format(age))
    print("Contact - {}".format(contact))
    for i in range(0, nofgms):
        print("Game {0} - {1}".format(i+1, games[i]))
    print("Timestamp of filling form : {0}".format(timenow))

elif teamornot == 2:
```

```
/usr/bin/python3 /home/yash/Documents/sem4practicals/FP/YSL_python/prac_1.2.py

        Registration Form for online game competition

Individual Application(type 1) or Team Application(type 2)?
1
Name : Yash Lakhtariya
Age : 987
Please input valid age between 12 and 100 : 21
Contact : 000012894984
Valid Contact : 6351573711
Enter number of games you want to participate : 3
Game 1 : Demo1
Game 2 : Demo2
Game 3 : Demo3

    Details given :

Name - Yash Lakhtariya
Age - 21
Contact - 6351573711
Game 1 - Demo1
Game 2 - Demo2
Game 3 - Demo3
Timestamp of filling form : 2023-01-05 23:07:26.239481

Process finished with exit code 0
```



```python
import datetime

print("\n\t\tRegistration Form for online game competition\n")

teamornot = int(input("Individual Application(type 1) or Team Application(type 2)?"))

if teamornot == 1:
    name = str(input("Name : "))

    age = int(input("Age : "))
    while age < 12 or age > 100:
        age = int(input("Please input valid age between 12 and 100 : "))

    contact = int(input("Contact : "))
    while len(str(contact)) != 10:
        contact = int(input("Valid Contact : "))

    nofgms = int(input("Enter number of games you want to participate : "))
    games = []
    for i in range(0, nofgms):
        g = input('Game {} : '.format(i+1))
        games.append(g)
    timenow = datetime.datetime.now()

    print("\n\tDetails given : \n")
    print("Name - {}".format(name))
    print("Age - {}".format(age))
    print("Contact - {}".format(contact))
    for i in range(0, nofgms):
        print("Game {0} - {1}".format(i+1, games[i]))
    print("Timestamp of filling form : {0}".format(timenow))

elif teamornot == 2:
```

```
/usr/bin/python3 /home/yash/Documents/sem4practicals/FP/YSL_python/prac_1.2.py

        Registration Form for online game competition

Individual Application(type 1) or Team Application(type 2)?
2
Enter number of members in the team : 3
Leader Name : Yash
Name of Member 1 : M1
Name of Member 2 : M2

Leader Age : 21
Member 1 Age : 19
Member 2 Age : 20

Leader Contact : 6351573711
Member 1 Contact : 1234567890
Member 2 Contact : 9876543210

Enter number of games you want to participate : 2
Game 1 : Cricket
Game 2 : GTA V

    Details given :

Leader Name - Yash
Leader Age - 21
Leader Contact - 6351573711


Member 1 Name - M1
Member 1 Age - 19
Member 1 contact - 1234567890
```

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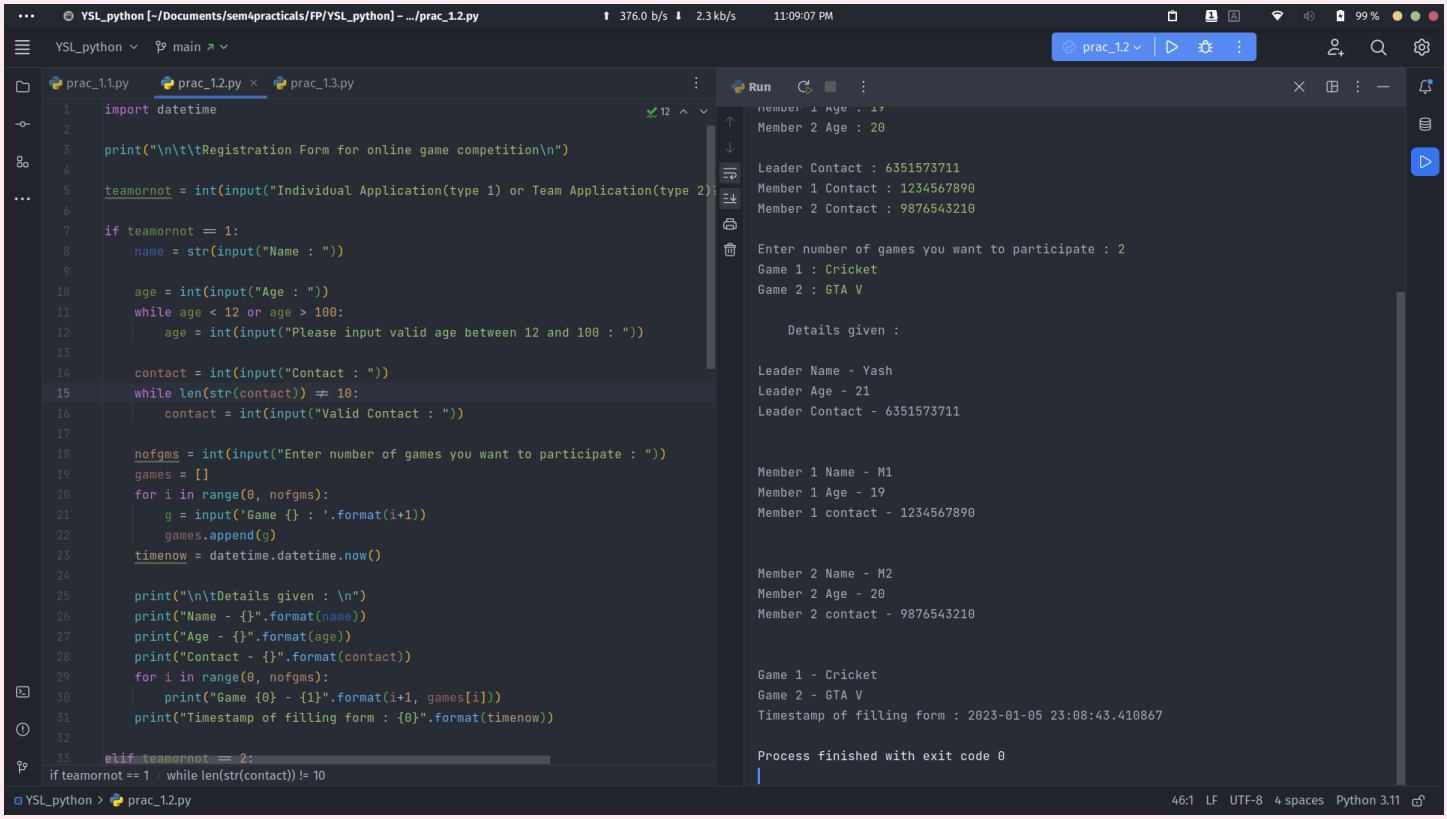

3. Given a number game one needs to generate any random number; iterate through the all digits present and print the sum of all digits.
Here is a sample run:
Enter a number between 0 and 1000:43
The sum of the digits is 7

Code :

```
import random

num = random.randint(0, 1000)
sumofdgts = 0
for i in str(num):
   sumofdgts += int(i)
print("The sum of digits of number {0} is {1}".format(num, sumofdgts))
```

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Output :