

# ASSIGNMENT 1 – PYTHON

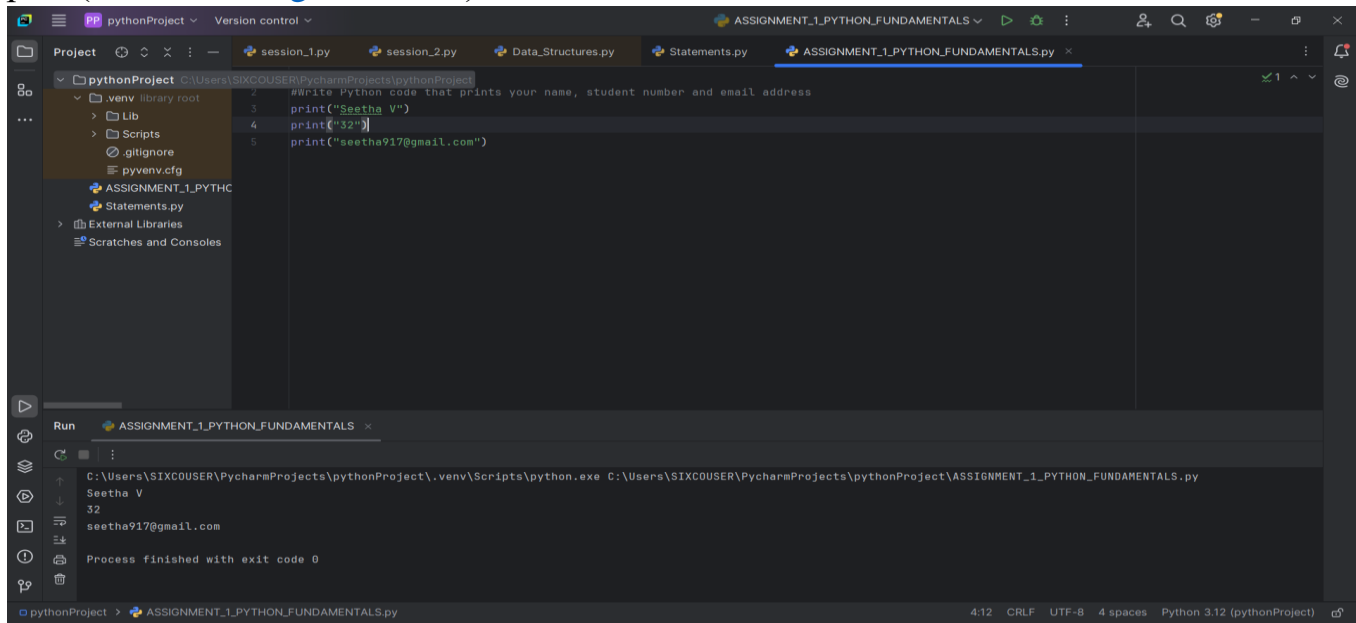
## FUNDAMENTALS

1. Write Python code that prints your name, student number and email address

```
print("Seetha V")
```

```
print("32")
```

```
print("seetha917@gmail.com")
```



The screenshot shows the PyCharm IDE with a project named 'pythonProject'. The file explorer on the left shows the project structure. The main editor window displays the file 'ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS.py' with the following code:

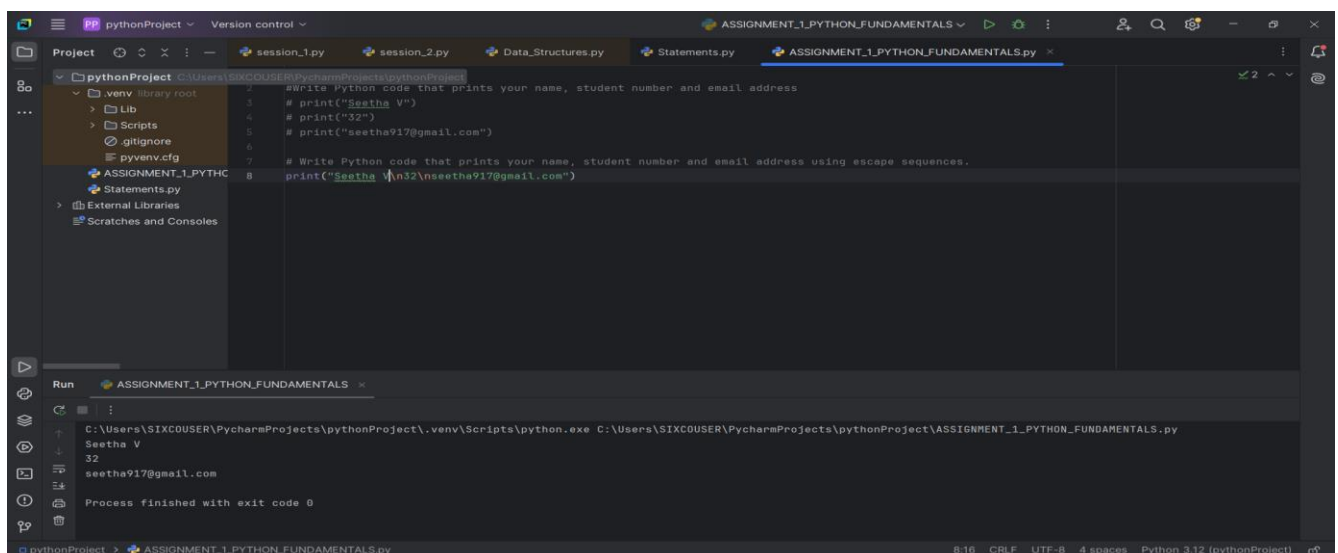
```
1 # Write Python code that prints your name, student number and email address
2
3 print("Seetha V")
4 print("32")
5 print("seetha917@gmail.com")
```

The Run console at the bottom shows the output of the code:

```
C:\Users\SIXCOUSER\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\ASSIGNMENT_1_PYTHON_FUNDAMENTALS.py
Seetha V
32
seetha917@gmail.com
Process finished with exit code 0
```

2. Write Python code that prints your name, student number and email address using escape sequences.

```
print("Seetha V\n32\nseetha917@gmail.com")
```



The screenshot shows the PyCharm IDE with the same project and file. The main editor window displays the file 'ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS.py' with the following code:

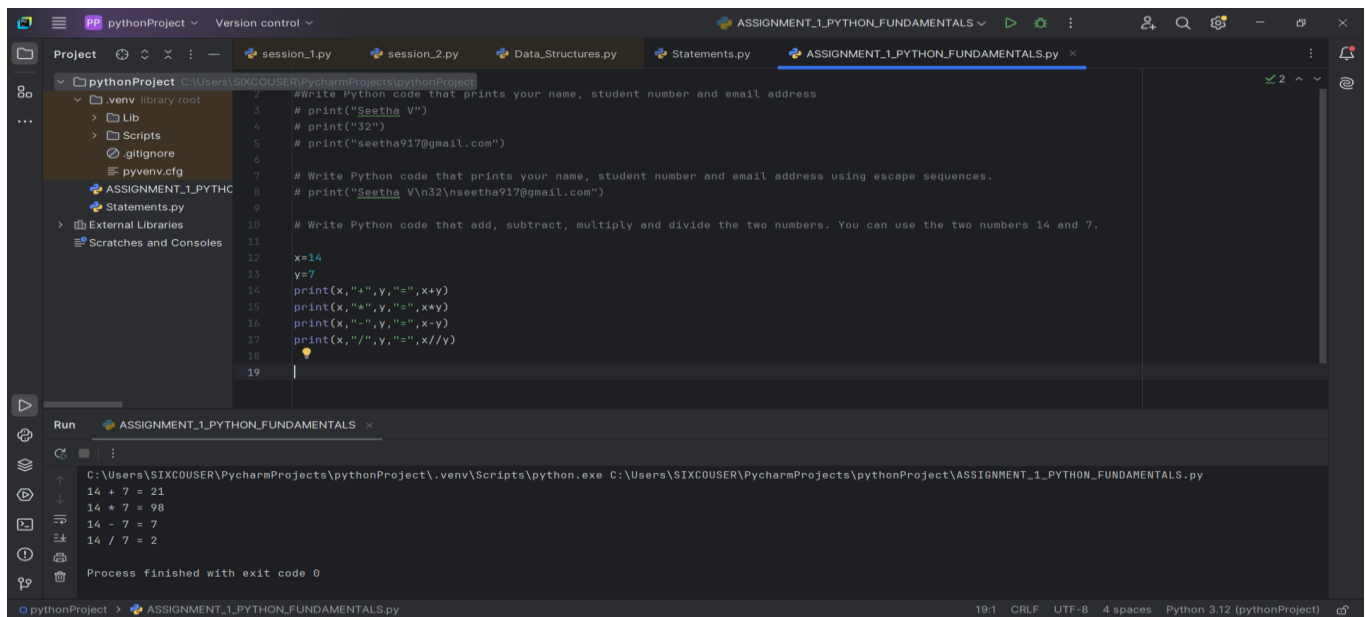
```
1 # Write Python code that prints your name, student number and email address
2
3 # print("Seetha V")
4 # print("32")
5 # print("seetha917@gmail.com")
6
7 # Write Python code that prints your name, student number and email address using escape sequences.
8 print("Seetha V\n32\nseetha917@gmail.com")
```

The Run console at the bottom shows the output of the code:

```
C:\Users\SIXCOUSER\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\ASSIGNMENT_1_PYTHON_FUNDAMENTALS.py
Seetha V
32
seetha917@gmail.com
Process finished with exit code 0
```

3. Write Python code that add, subtract, multiply and divide the two numbers. You can use the two numbers 14 and 7.

```
x=14
y=7
print( x , "+", y , "=", x+y )
print( x , "*", y , "=", x*y )
print( x , "-", y , "=", x-y )
print( x , "/", y , "=", x/y )
```



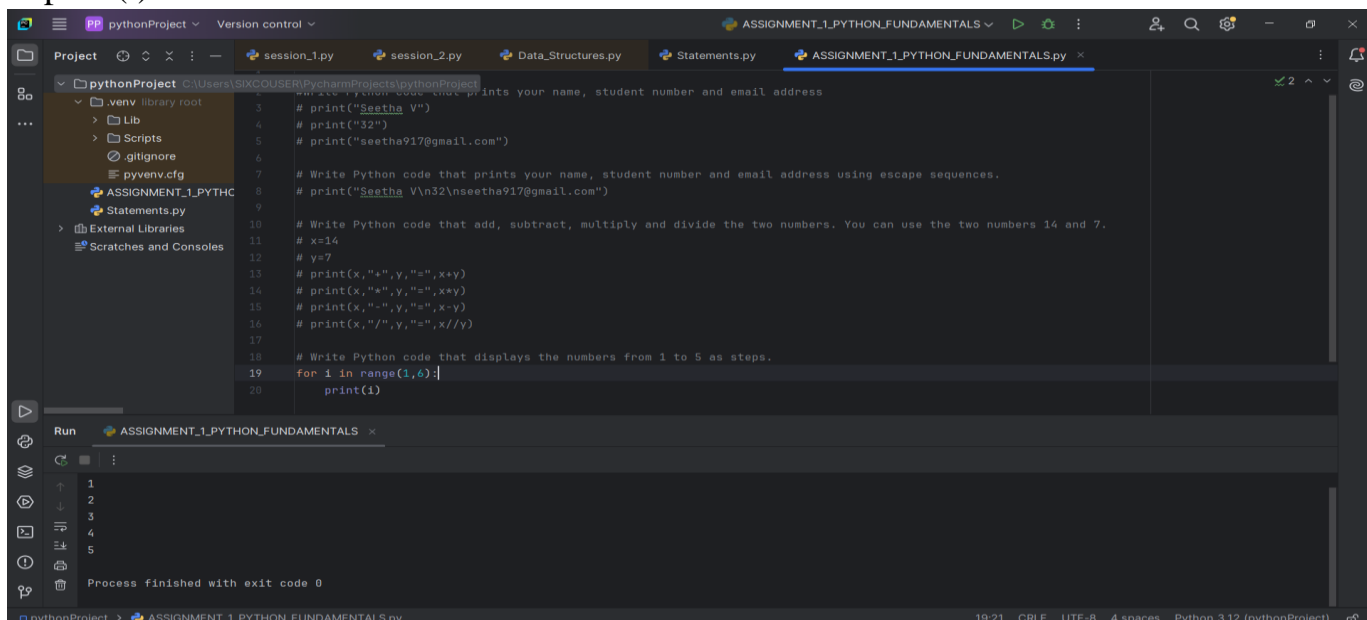
```
pythonProject  Version control  ASSIGNMENT_1_PYTHON_FUNDAMENTALS  19:11  CRLF  UTF-8  4 spaces  Python 3.12 (pythonProject)
```

```
1 # Write Python code that prints your name, student number and email address
2 # print("Seetha V")
3 # print("32")
4 # print("seetha917@gmail.com")
5
6 # Write Python code that prints your name, student number and email address using escape sequences.
7 # print("Seetha V\n32\nseetha917@gmail.com")
8
9 # Write Python code that add, subtract, multiply and divide the two numbers. You can use the two numbers 14 and 7.
10
11 x=14
12 y=7
13 print(x,"+",y,"=",x+y)
14 print(x,"*",y,"=",x*y)
15 print(x,"-",y,"=",x-y)
16 print(x,"/",y,"=",x/y)
17
18
19
```

```
Run  ASSIGNMENT_1_PYTHON_FUNDAMENTALS
C:\Users\SIXCOUSER\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\ASSIGNMENT_1_PYTHON_FUNDAMENTALS.py
14 + 7 = 21
14 * 7 = 98
14 - 7 = 7
14 / 7 = 2
Process finished with exit code 0
```

4. Write Python code that displays the numbers from 1 to 5 as steps.

```
for i in range(1,6):
    print(i)
```



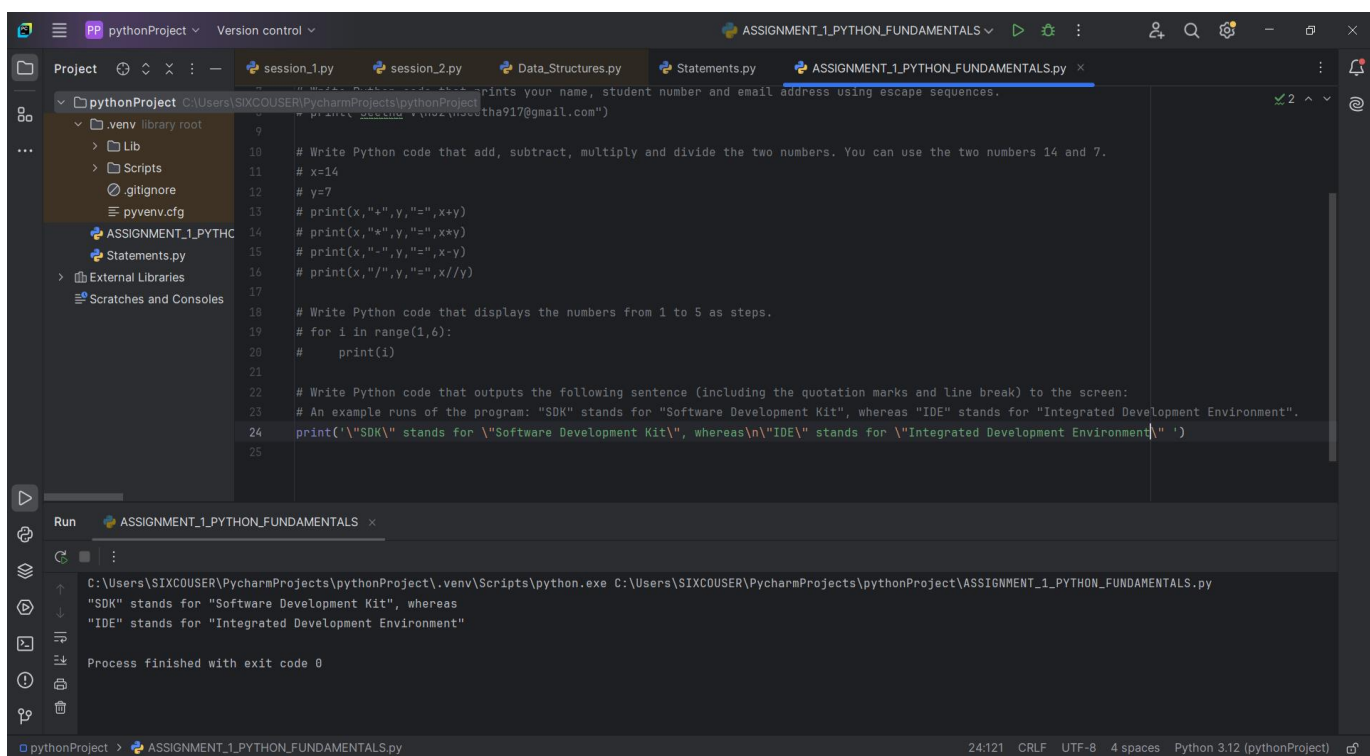
```
pythonProject  Version control  ASSIGNMENT_1_PYTHON_FUNDAMENTALS  19:21  CRLF  UTF-8  4 spaces  Python 3.12 (pythonProject)
```

```
1 # Write Python code that prints your name, student number and email address
2 # print("Seetha V")
3 # print("32")
4 # print("seetha917@gmail.com")
5
6 # Write Python code that prints your name, student number and email address using escape sequences.
7 # print("Seetha V\n32\nseetha917@gmail.com")
8
9 # Write Python code that add, subtract, multiply and divide the two numbers. You can use the two numbers 14 and 7.
10
11 x=14
12 y=7
13 print(x,"+",y,"=",x+y)
14 print(x,"*",y,"=",x*y)
15 print(x,"-",y,"=",x-y)
16 print(x,"/",y,"=",x/y)
17
18 # Write Python code that displays the numbers from 1 to 5 as steps.
19 for i in range(1,6):
20     print(i)
```

```
Run  ASSIGNMENT_1_PYTHON_FUNDAMENTALS
1
2
3
4
5
Process finished with exit code 0
```

5. Write Python code that outputs the following sentence (including the quotation marks and line break) to the screen: An example runs of the program: "SDK" stands for "Software Development Kit", whereas "IDE" stands for "Integrated Development Environment".

```
print( '\"SDK\" stands for \"Software Development Kit\", whereas\\n\"IDE\" stands for \"Integrated Development Environment\" ' )
```

A screenshot of the PyCharm IDE interface. The top toolbar shows the 'Run' button (a green play icon). The main editor window displays a Python file named 'ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS.py'. The code in the editor includes comments and a single print statement that uses escape sequences to format the output. The bottom 'Run' console shows the execution output, which matches the string specified in the print statement, including a line break. The status bar at the bottom indicates the file encoding is UTF-8 and the Python version is 3.12.

```
9 # Prints your name, student number and email address using escape sequences.
10 print('Your name: ' + name + ', Student number: ' + str(student_number) + ', Email address: ' + email_address)
11
12 # Write Python code that add, subtract, multiply and divide the two numbers. You can use the two numbers 14 and 7.
13 # x=14
14 # y=7
15 # print(x,"+",y,"=",x+y)
16 # print(x,"*",y,"=",x*y)
17 # print(x,"-",y,"=",x-y)
18 # print(x,"/",y,"=",x//y)
19
20 # Write Python code that displays the numbers from 1 to 5 as steps.
21 # for i in range(1,6):
22 #     print(i)
23
24 # Write Python code that outputs the following sentence (including the quotation marks and line break) to the screen:
25 # An example runs of the program: "SDK" stands for "Software Development Kit", whereas "IDE" stands for "Integrated Development Environment".
26 print('\"SDK\" stands for \"Software Development Kit\", whereas\\n\"IDE\" stands for \"Integrated Development Environment\" ')
```

Run: C:\Users\SIXCOUSER\PycharmProjects\pythonProject\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS.py

"SDK" stands for "Software Development Kit", whereas  
"IDE" stands for "Integrated Development Environment"

Process finished with exit code 0

6. Practice and check the output `print("python is an \"awesome\" language.")` `print("python\\n\\t2023")` `print('I\\'m from Entri.\\b')` `print("\\65")` `print("\\x65")` `print("Entri", "2023", sep="\\n")` `print("Entri", "2023", sep="\\b")` `print("Entri", "2023", sep="*", end="\\b\\b\\b\\b")`

```
print("python is an \"awesome\" language.")
```

```
print("python\\n\\t2023")
```

```

print('I\'m from Entri.\b')
print("\65")
print("\x65")
print("Entri", "2023", sep="\n")
print("Entri", "2023", sep="\b")
print("Entri", "2023", sep="*", end="\b\b\b\b")

```

The screenshot shows a PyCharm IDE window titled 'pythonProject'. The main editor displays a Python file named 'ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS.py'. The code in the file includes comments and several print statements that demonstrate various string formatting techniques, including escape sequences for backslashes, hex values, and different separators and end characters. The output of the script is shown in the 'Run' console at the bottom, which displays the results of each print statement as they are executed.

```

# An example of the program: "SDK" stands for "Software Development Kit", whereas "IDE" stands for "Integrated Development Environment".
# print('\\"SDK\\" stands for \\"Software Development Kit\\", whereas\\n\\"IDE\\" stands for \\"Integrated Development Environment\\" ')
#Practice and check the output
print("python is an \"awesome\" language.")
print("python\\n\\t2023")
print('I\'m from Entri.\b')
print("\65")
print("\x65")
print("Entri", "2023", sep="\n")
print("Entri", "2023", sep="\b")
print("Entri", "2023", sep="*", end="\b\b\b\b")

```

The output in the Run console is as follows:

```

python is an "awesome" language.
python
2023
I'm from Entri
5
e
Entri
2023
Entri2023
Entri*
Process finished with exit code 0

```

7. Define the variables below. Print the types of each variable. What is the sum of your variables? (Hint: use a type conversion function.) What datatype is the sum? num=23 textnum="57" decimal=98.3

```

num=23
textnum="57"
decimal=98.3

```

```

print("TYPE OF NUM IS", type(num))
print("TYPE OF TEXTSUM IS", type(textnum))

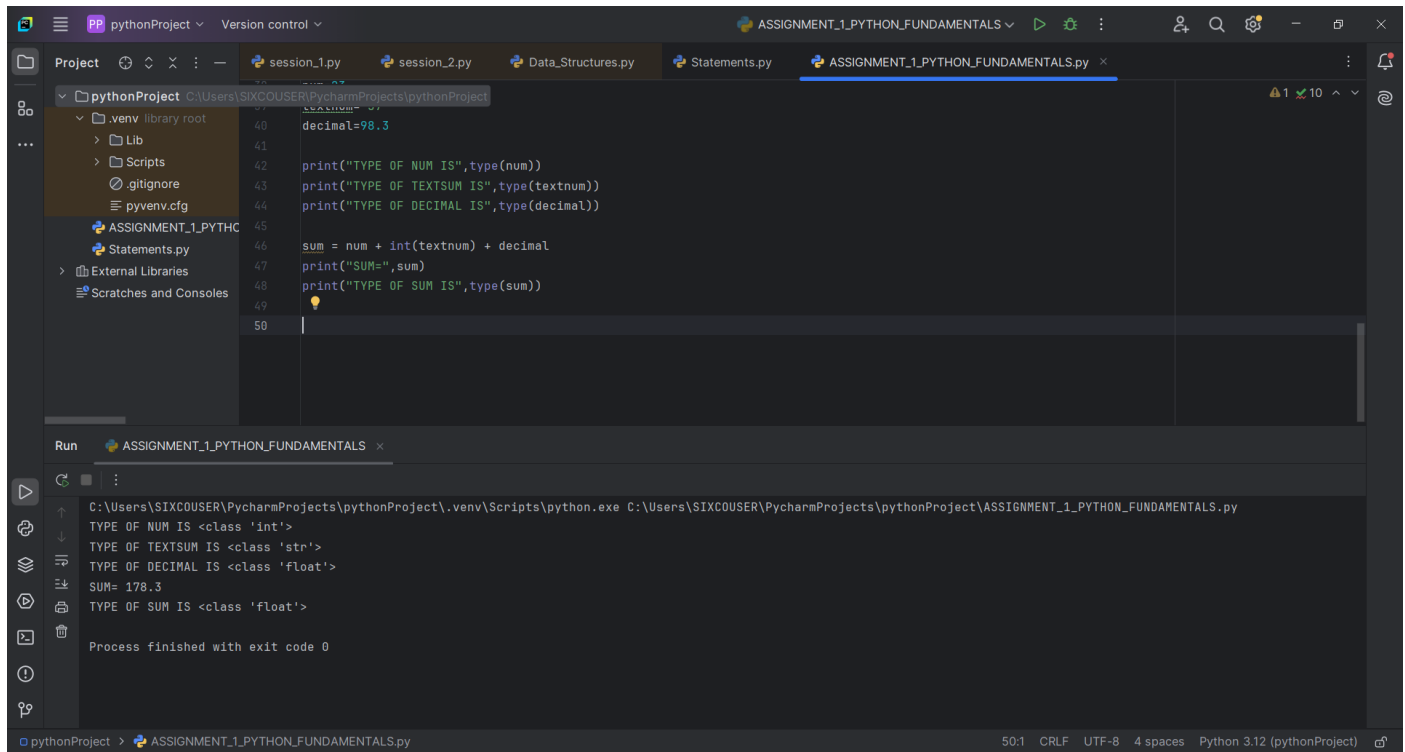
```

```
print("TYPE OF DECIMAL IS", type(decimal))
```

```
sum = num + int(textnum) + decimal
```

```
print("SUM=",sum)
```

```
print("TYPE OF SUM IS", type(sum))
```



The screenshot shows the PyCharm IDE interface. The main editor window displays a Python script named `ASSIGNMENT_1_PYTHON_FUNDAMENTALS.py`. The script contains the following code:

```
40 decimal=98.3
41
42 print("TYPE OF NUM IS",type(num))
43 print("TYPE OF TEXTSUM IS",type(textnum))
44 print("TYPE OF DECIMAL IS",type(decimal))
45
46 sum = num + int(textnum) + decimal
47 print("SUM=",sum)
48 print("TYPE OF SUM IS",type(sum))
49
50
```

The Run tool window at the bottom shows the execution output:

```
C:\Users\SIXCOUSER\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\ASSIGNMENT_1_PYTHON_FUNDAMENTALS.py
TYPE OF NUM IS <class 'int'>
TYPE OF TEXTSUM IS <class 'str'>
TYPE OF DECIMAL IS <class 'float'>
SUM= 178.3
TYPE OF SUM IS <class 'float'>
Process finished with exit code 0
```

8. Calculate the number of minutes in a year using variables for each unit of time. print a statement that describes what your code does also. Create three variables to store no of days in a year, minute in a hour, hours in a day, then calculate the total minutes in a year and print the values (hint) total number of minutes in an year = No. of days in an year \* Hours in a day \* Minutes in an hour

```
no_of_days_in_year = 365
```

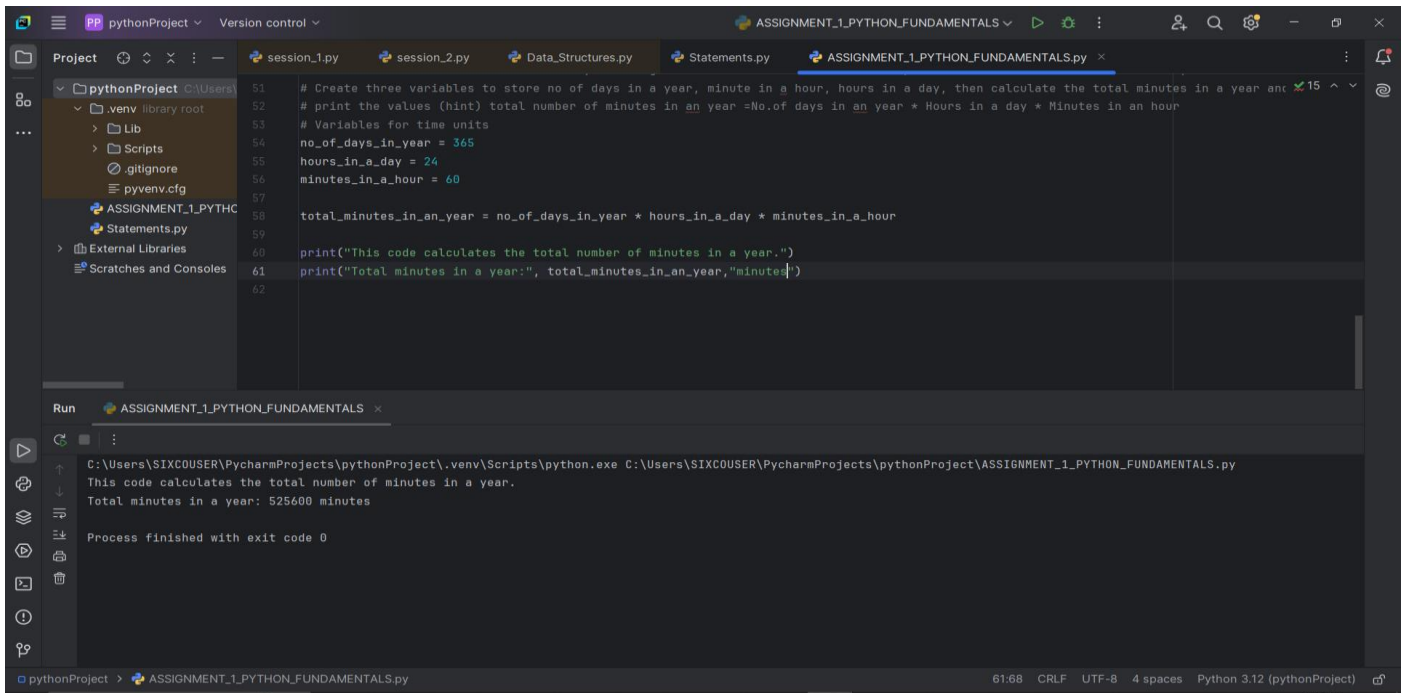
```
hours_in_a_day = 24
```

```
minutes_in_a_hour = 60
```

```
total_minutes_in_an_year = no_of_days_in_year * hours_in_a_day * minutes_in_a_hour

print("This code calculates the total number of minutes in a year.")

print("Total minutes in a year:", total_minutes_in_an_year,"minutes")
```



```
51 # Create three variables to store no of days in a year, minute in a hour, hours in a day, then calculate the total minutes in a year and
52 # print the values (hint) total number of minutes in an year =No.of days in an year * Hours in a day * Minutes in an hour
53 # Variables for time units
54 no_of_days_in_year = 365
55 hours_in_a_day = 24
56 minutes_in_a_hour = 60
57
58 total_minutes_in_an_year = no_of_days_in_year * hours_in_a_day * minutes_in_a_hour
59
60 print("This code calculates the total number of minutes in a year.")
61 print("Total minutes in a year:", total_minutes_in_an_year,"minutes")
62
```

Run: C:\Users\SIXCOUSER\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS.py

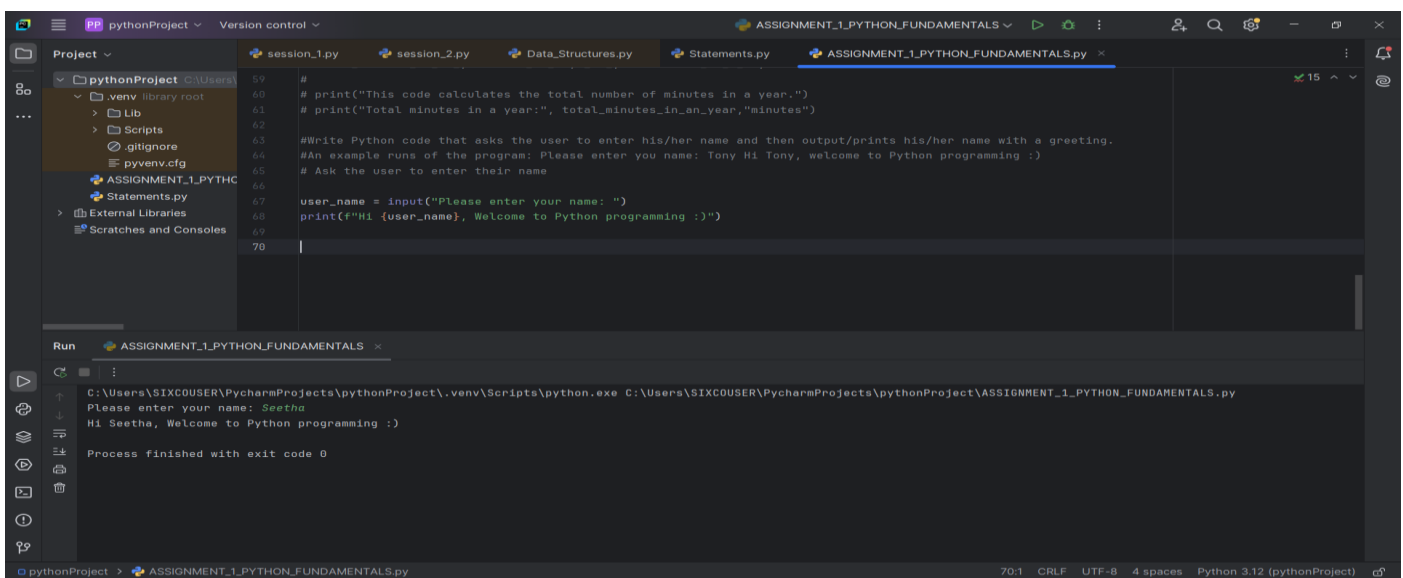
This code calculates the total number of minutes in a year.  
Total minutes in a year: 525600 minutes

Process finished with exit code 0

9. Write Python code that asks the user to enter his/her name and then output/prints his/her name with a greeting. An example runs of the program: Please enter you name: Tony Hi Tony, welcome to Python programming :)

```
user_name = input("Please enter your name: ")

print(f "Hi {user_name}, Welcome to Python programming :)")
```



```
59 # print("This code calculates the total number of minutes in a year.")
60 # print("Total minutes in a year:", total_minutes_in_an_year,"minutes")
61
62 #Write Python code that asks the user to enter his/her name and then output/prints his/her name with a greeting.
63 #An example runs of the program: Please enter you name: Tony Hi Tony, welcome to Python programming :)
64 # Ask the user to enter their name
65
66 user_name = input("Please enter your name: ")
67 print(f"Hi {user_name}, Welcome to Python programming :)")
68
69
70
```

Run: C:\Users\SIXCOUSER\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS.py

Please enter your name: Seetha  
Hi Seetha, Welcome to Python programming :)

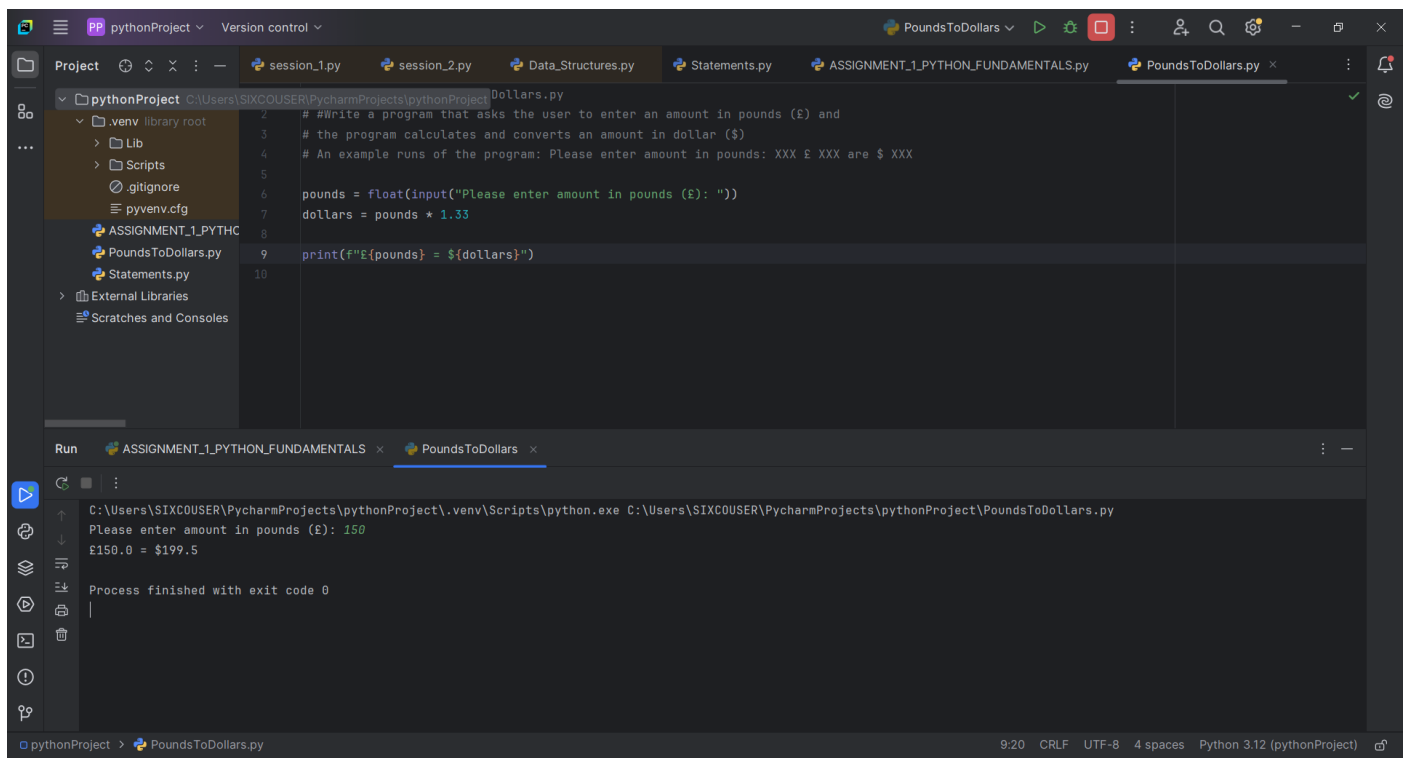
Process finished with exit code 0

10. Name your file: PoundsToDollars.py Write a program that asks the user to enter an amount in pounds (£) and the program calculates and converts an amount in dollar (\$) An example runs of the program: Please enter amount in pounds: XXX £ XXX are \$ XXX

```
pounds = float(input("Please enter amount in pounds (£): "))
```

```
dollars = pounds * 1.33
```

```
print(f"£{pounds} = ${dollars}")
```



The screenshot shows the PyCharm IDE interface. The top toolbar includes icons for running and debugging. The 'Project' sidebar on the left shows the file structure of the 'pythonProject' directory, with 'PoundsToDollars.py' highlighted. The main editor window displays the code for 'PoundsToDollars.py', which includes comments and the implementation of the conversion program. The 'Run' console at the bottom shows the execution of the program, with the input '150' and the output '£150.0 = \$199.5'. The status bar at the bottom indicates the file encoding (UTF-8) and the Python version (3.12).

```
pythonProject
├── .venv
│   ├── library root
│   ├── Lib
│   ├── Scripts
│   ├── .gitignore
│   └── pyenv.cfg
├── ASSIGNMENT_1_PYTHON_FUNDAMENTALS.py
├── PoundsToDollars.py
├── Statements.py
└── External Libraries
    └── Scratches and Consoles
```

```
2 # Write a program that asks the user to enter an amount in pounds (£) and
3 # the program calculates and converts an amount in dollar ($)
4 # An example runs of the program: Please enter amount in pounds: XXX £ XXX are $ XXX
5
6 pounds = float(input("Please enter amount in pounds (£): "))
7 dollars = pounds * 1.33
8
9 print(f"£{pounds} = ${dollars}")
10
```

Run: ASSIGNMENT\_1\_PYTHON\_FUNDAMENTALS x PoundsToDollars x

```
C:\Users\SIXCOUSER\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\SIXCOUSER\PycharmProjects\pythonProject\PoundsToDollars.py
Please enter amount in pounds (£): 150
£150.0 = $199.5
Process finished with exit code 0
```

pythonProject > PoundsToDollars.py 9:20 CRLF UTF-8 4 spaces Python 3.12 (pythonProject)