Python Fundamentals

Exercise 1

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

An example runs of the program:

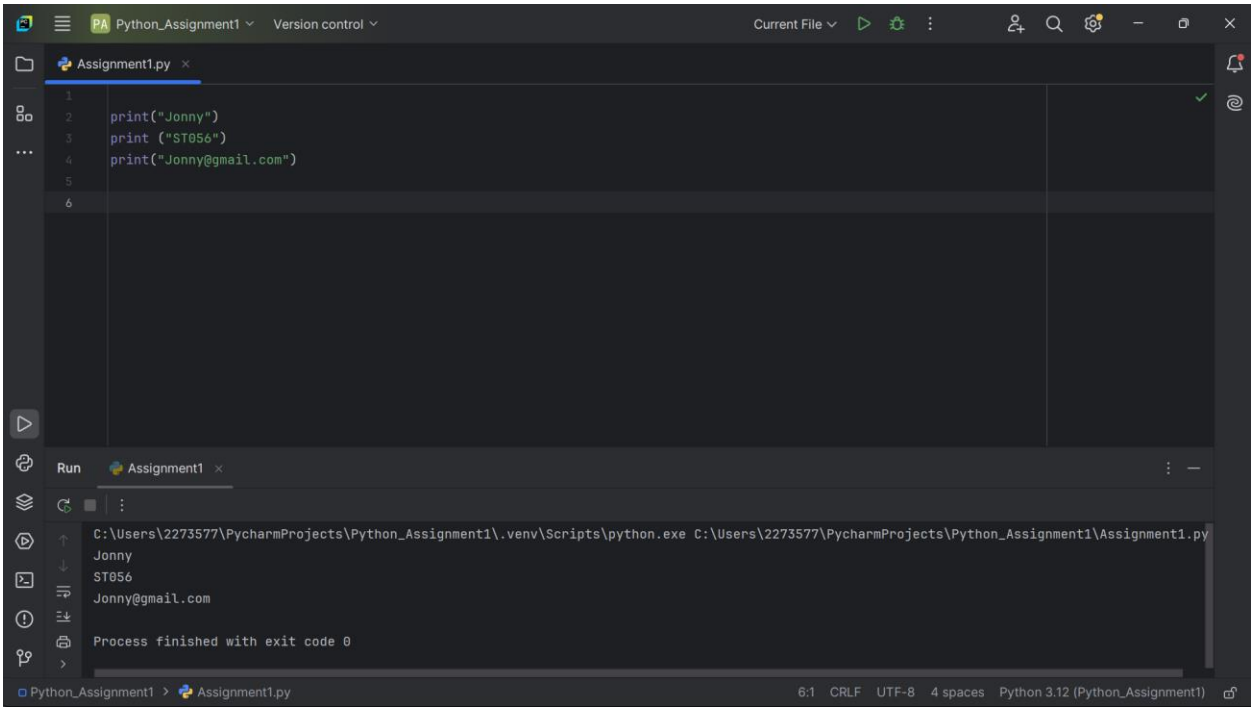
Bob

ST1001

bob@gmail.com

Solution: This code prints the name, student number, and email address on separate lines using the \n newline character.

print("Jonny")
print ("ST056")
print("Jonny@gmail.com")



Exercise 2

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

An example runs of the program:

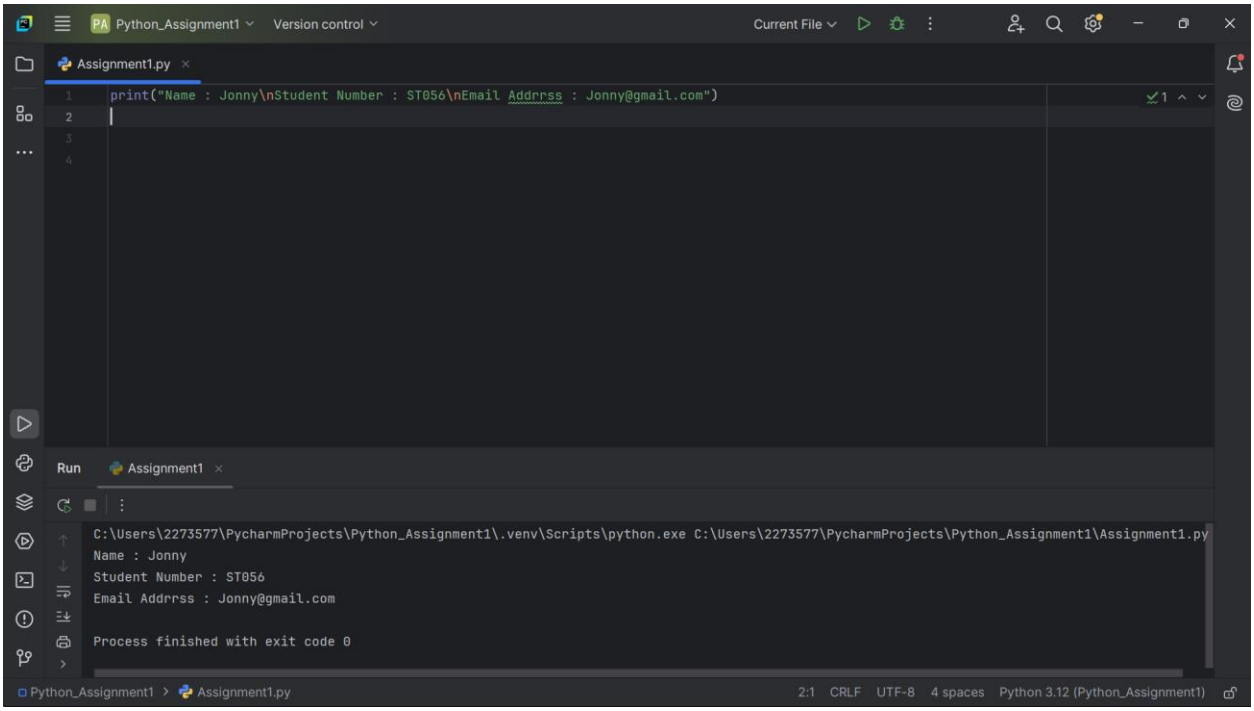
Bob

ST1001

bob@gmail.com

Solution: This code uses the \n escape sequence to print each piece of information on a new line.

print("Name : Jonny\nStudent Number : ST056\nEmail Addrrss : Jonny@gmail.com")



Exercise 3

Write Python code that add, subtract, multiply and divide the two numbers. You can use the two numbers 14 and 7. An example run of the program:

14 + 7 = 21

14 * 7 = 98

14 – 7 = 7

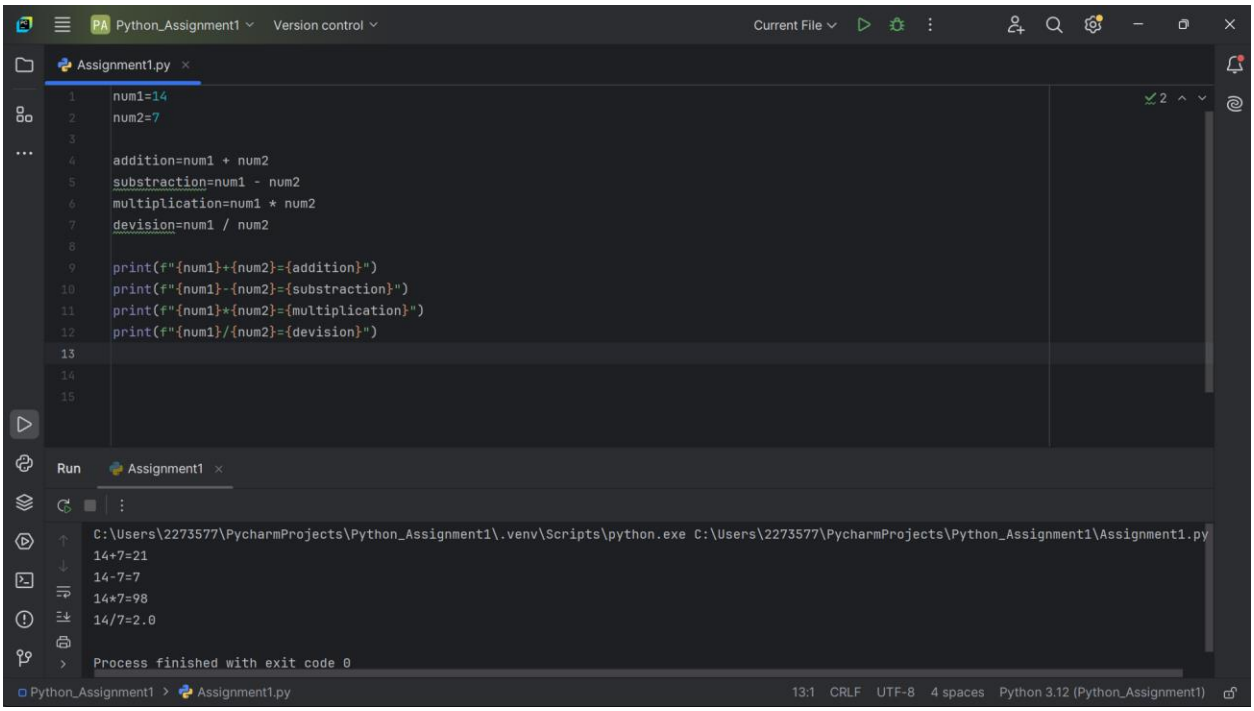
14 / 7 = 2

Solution: This code defines two numbers, performs the four basic arithmetic operations, and prints the results using formatted strings.

```
num1=14
num2=7

addition=num1 + num2
substraction=num1 - num2
multiplication=num1 * num2
devision=num1 / num2

print(f"{num1}+{num2}={addition}")
print(f"{num1}-{num2}={substraction}")
print(f"{num1}*{num2}={multiplication}")
print(f"{num1}/{num2}={devision}")
```


Python_Assignment1
Version control
Current File
Assignment1.py
num1=14
num2=7
addition=num1 + num2
substraction=num1 - num2
multiplication=num1 * num2
devision=num1 / num2
print(f"{num1}+{num2}={addition}")
print(f"{num1}-{num2}={substraction}")
print(f"{num1}*{num2}={multiplication}")
print(f"{num1}/{num2}={devision}")
Run
Assignment1
C:\Users\2273577\PycharmProjects\Python_Assignment1\.venv\Scripts\python.exe C:\Users\2273577\PycharmProjects\Python_Assignment1\Assignment1.py
14+7=21
14-7=7
14*7=98
14/7=2.0
Process finished with exit code 0
Python_Assignment1 > Assignment1.py
13:1 CRLF UTF-8 4 spaces Python 3.12 (Python_Assignment1)

Exercise 4

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

An example runs of the program:

1

2

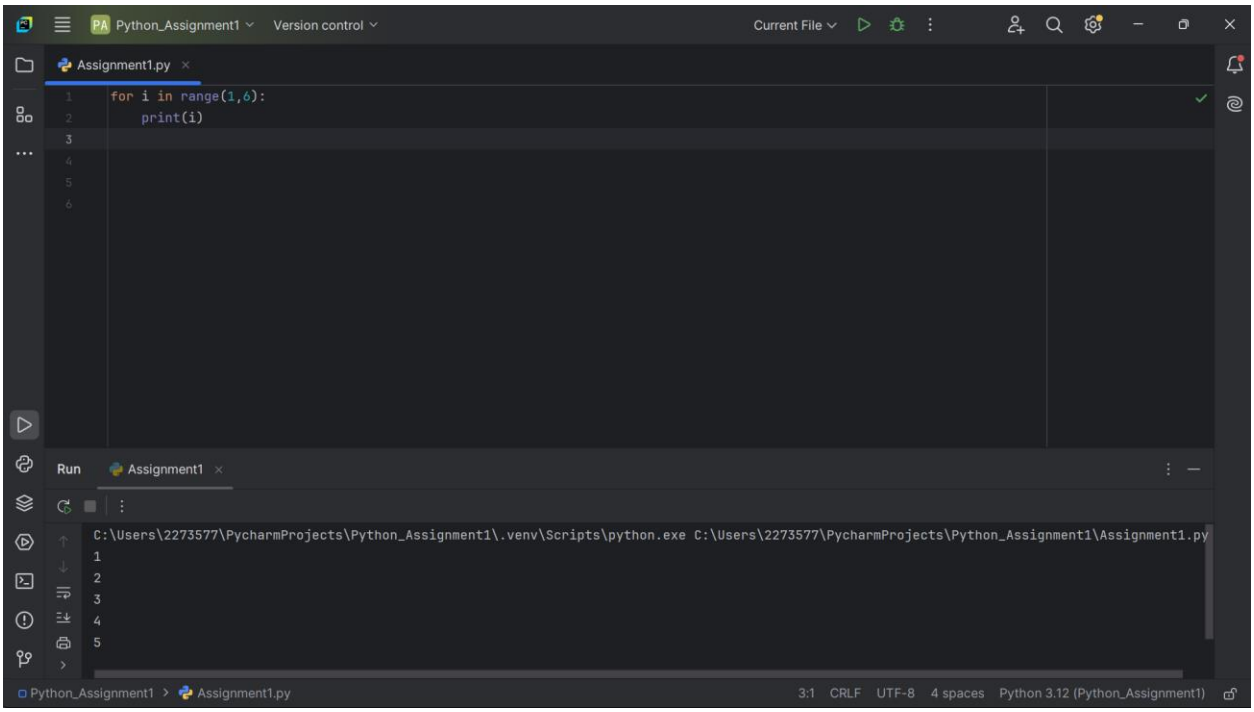
3

4

5

Solution: This code uses a for loop to iterate through the range of numbers from 1 to 5 and prints each number on a new line.

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



Exercise 5

Write Python code that outputs the following sentence (including the quotation marks and line break) to the screen:

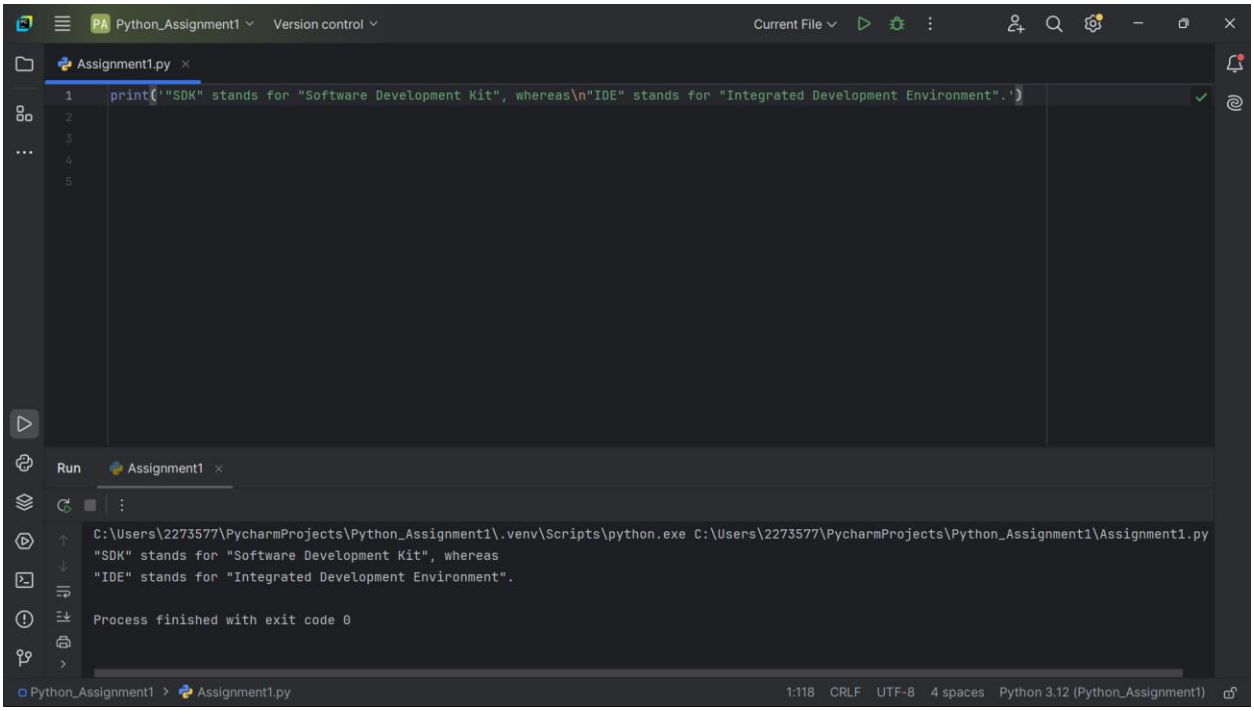
An example runs of the program:

"SDK" stands for "Software Development Kit", whereas

"IDE" stands for "Integrated Development Environment".

Solution: This code uses escape sequences \n for the line break to format the output correctly.

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



Exercise 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")

Solution: The backslash (\) is used to escape the double quotes within the string.

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

Solution: The \n creates a new line, and \t adds a tab space.

print("python\n\t2023")

Solution: The backslash (\) is used to escape the single quote within the string. The \b is a backspace character, but it doesn't have a visible effect here.

print('I\'m from Entri.\b')

Solution: \65 is an octal escape sequence representing the character '5'.

print("\65")

Solution: \x65 is a hexadecimal escape sequence representing the character 'e'.

print("\x65")

Solution: The sep parameter specifies the separator between the arguments, which is a newline character here.

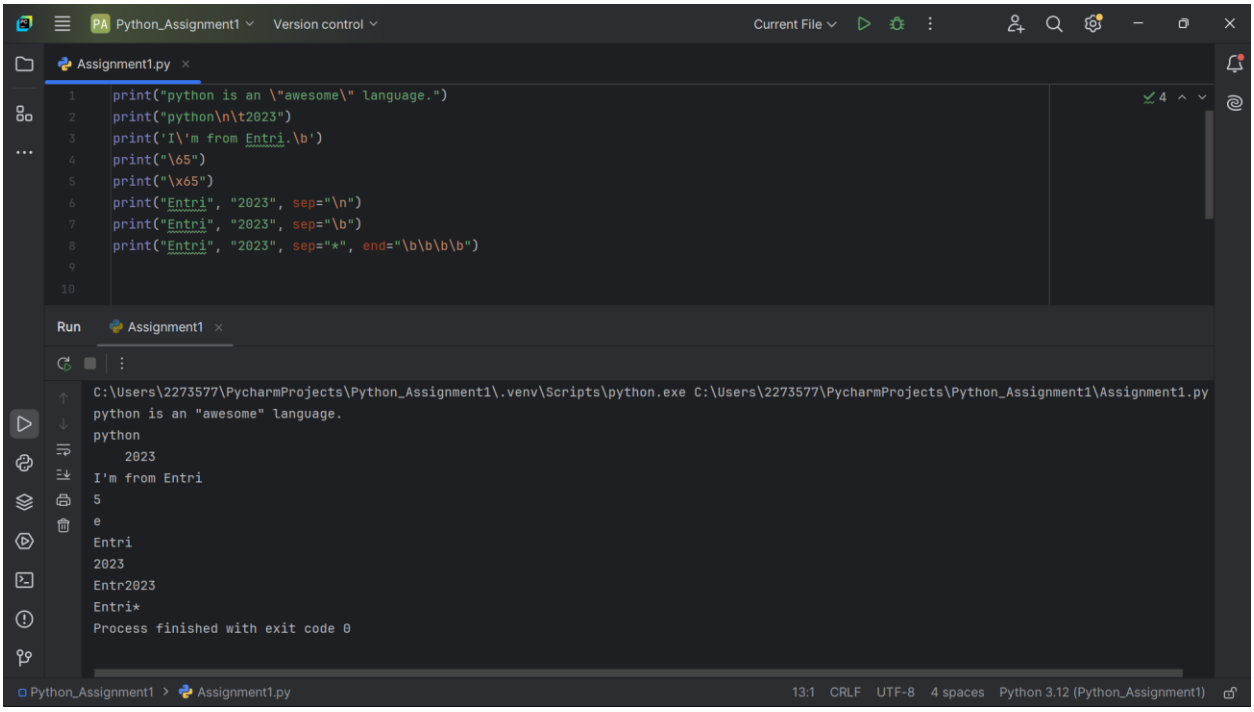
print("Entri", "2023", sep="\n")

Solution: The sep parameter specifies the separator between the arguments, which is a backspace character here.

print("Entri", "2023", sep="\b")

Solution: The sep parameter specifies the separator between the arguments, which is an asterisk (*) here. The end parameter specifies what to print at the end, which is four backspace characters here.

print("Entri", "2023", sep="*", end="\b\b\b\b")



Exercise 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

Solution: The sum of the variables is calculated by converting var3 to an integer, and the datatype of the sum is float.

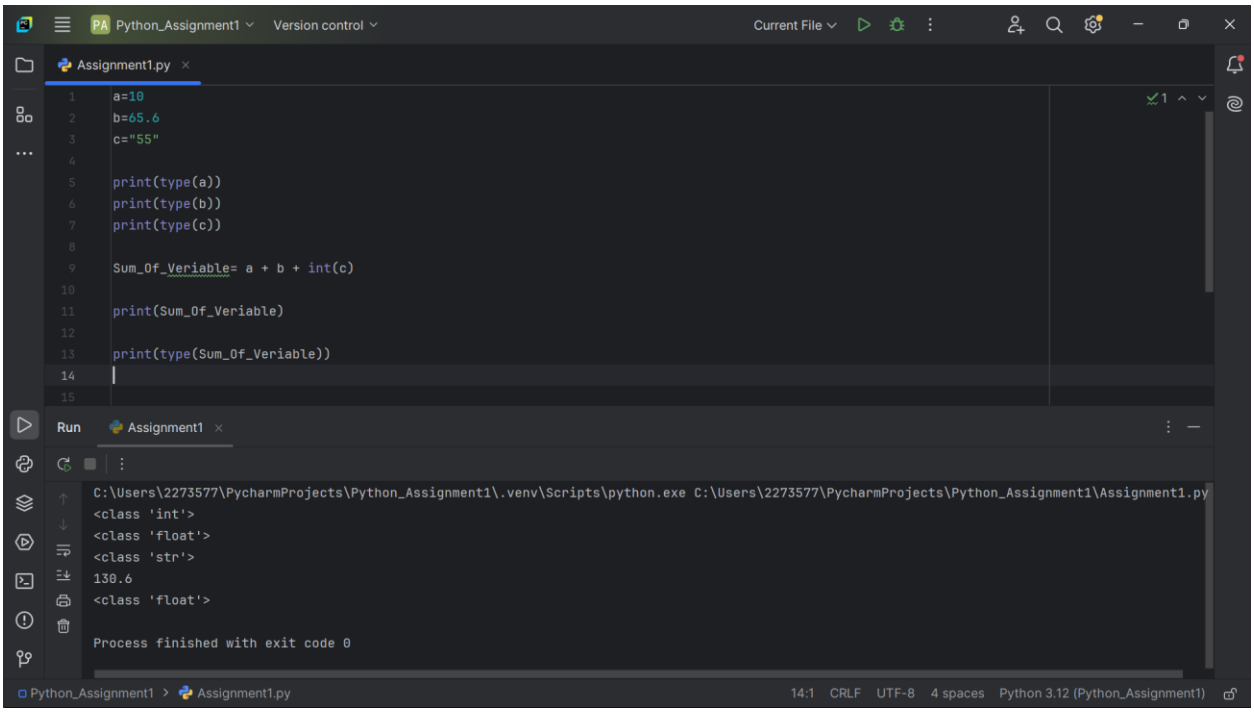
```
a=10
b=65.6
c="55"

print(type(a))
print(type(b))
print(type(c))

Sum_Of_Veriable= a + b + int(c)

print(Sum_Of_Veriable)

print(type(Sum_Of_Veriable))
```


Python_Assignment1
Version control
Current File
Assignment1.py
a=10
b=65.6
c="55"
print(type(a))
print(type(b))
print(type(c))
Sum_Of_Veriable= a + b + int(c)
print(Sum_Of_Veriable)
print(type(Sum_Of_Veriable))
Run
Assignment1
C:\Users\2273577\PycharmProjects\Python_Assignment1\.venv\Scripts\python.exe C:\Users\2273577\PycharmProjects\Python_Assignment1\Assignment1.py
<class 'int'>
<class 'float'>
<class 'str'>
130.6
<class 'float'>
Process finished with exit code 0
Python_Assignment1 > Assignment1.py
14:1 CRLF UTF-8 4 spaces Python 3.12 (Python_Assignment1)

Exercise 8

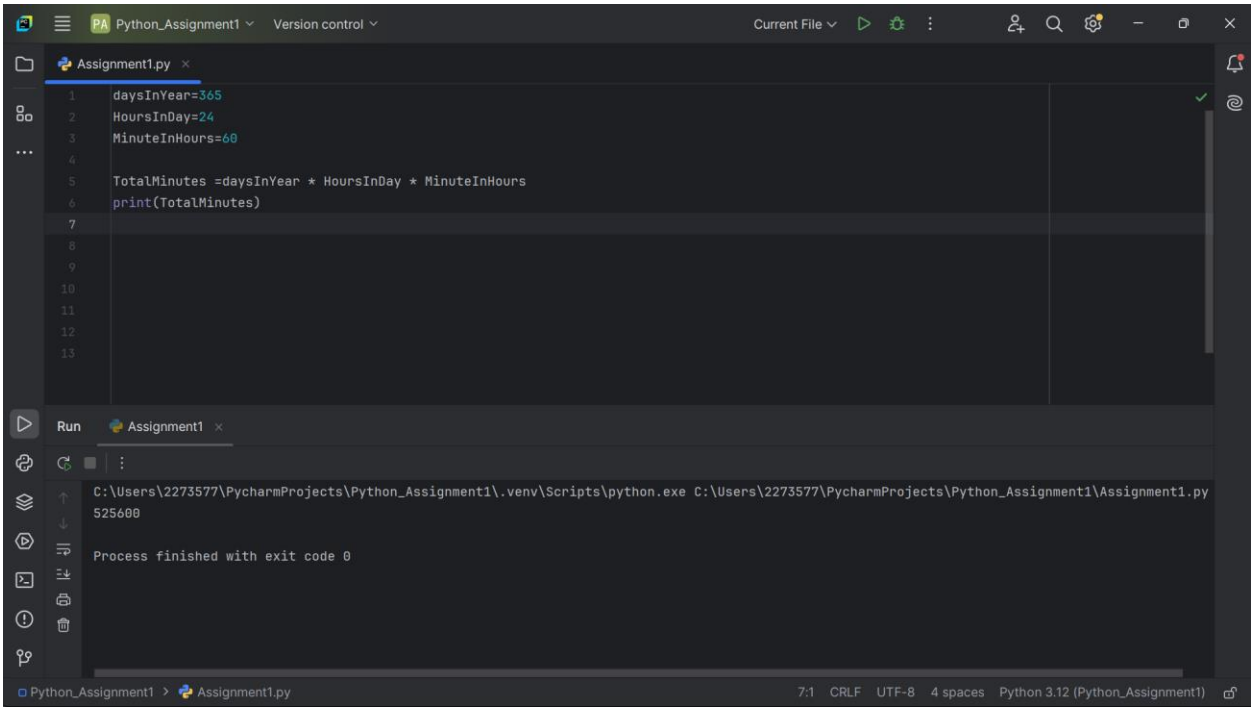
calculate the number of minutes in a year using variables for each unit of time. print a statement that describes what your code does also. Create three variables to store no of days in a year, minute in a hour, hours in a day, then calculate the total minutes in a year and print the values

(hint) total number of minutes in an year =No.of days in an year * Hours in a day * Minutes in an hour

Solution: This code calculates the total number of minutes in a year by multiplying the number of days in a year, hours in a day, and minutes in an hour.

daysInYear=365
HoursInDay=24
MinuteInHours=60

TotalMinutes =daysInYear * HoursInDay * MinuteInHours
print(TotalMinutes)



Exercise 9

Write Python code that asks the user to enter his/her name and then output/prints his/her name with a greeting.

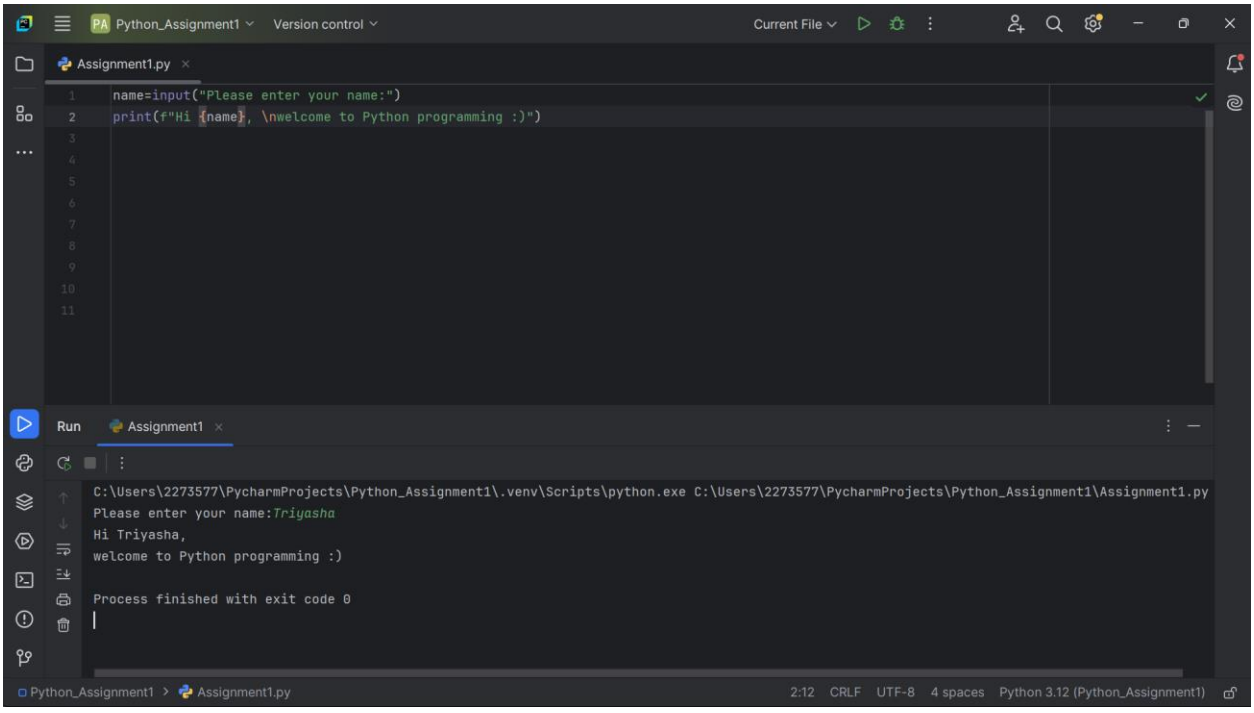
An example runs of the program:

Please enter you name: Tony

Hi Tony, welcome to Python programming :)

Solution: This code asks the user for their name and prints a personalized greeting.

name=input("Please enter your name:")
print(f"Hi{name}, \nwelcome to Python programming :)")



Exercise 10

Name your file: PoundsToDollars.py

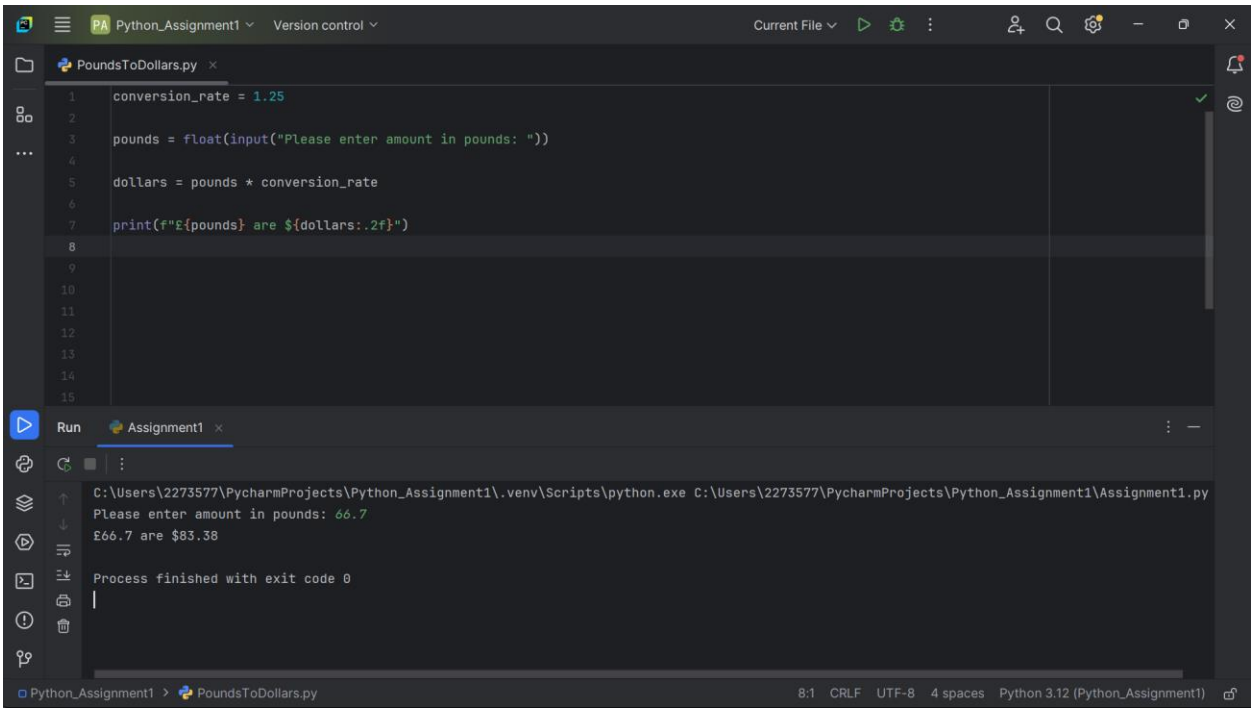
Write a program that asks the user to enter an amount in pounds (£) and the program calculates and converts an amount in dollar ($)

An example runs of the program:

Please enter amount in pounds: XXX

£ XXX are $ XXX

Solution: This code converts an amount entered in pounds to dollars using a predefined conversion rate.



conversion_rate = 1.25

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

dollars = pounds * conversion_rate

print(f"£{pounds} are ${dollars:.2f}")