Python Scripting Built In Functions

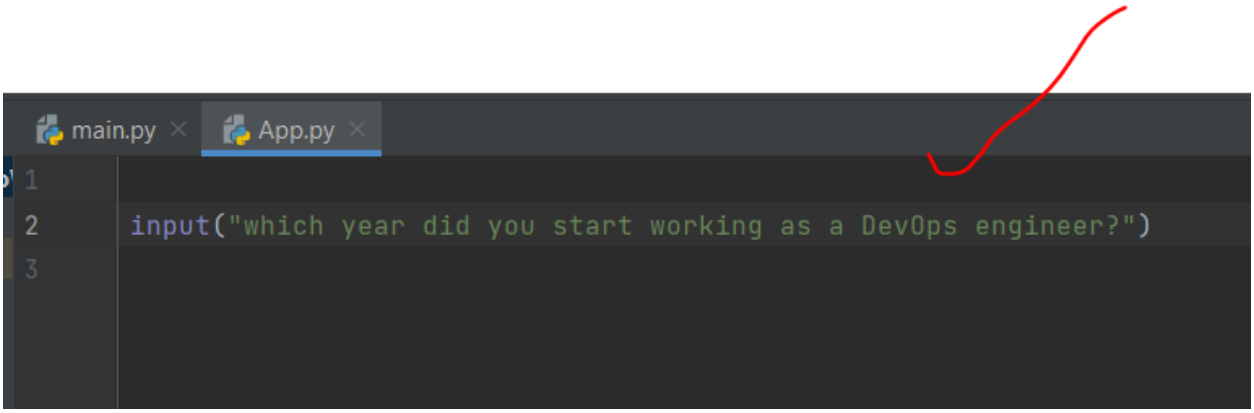
Input built in function in Python

We saw this in session 1.

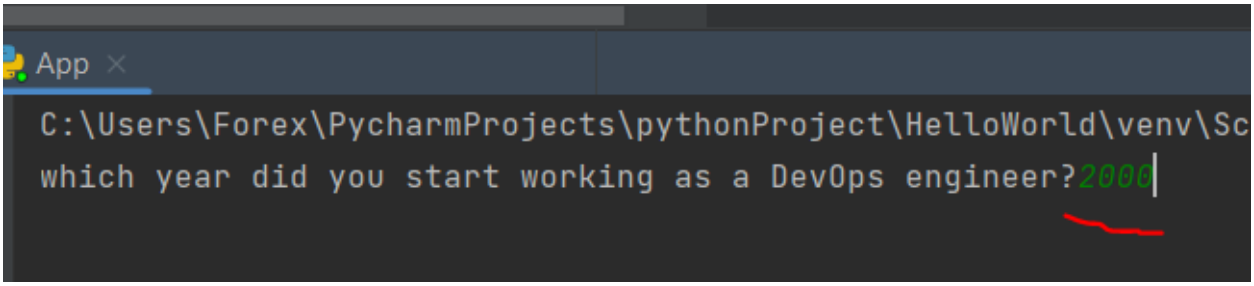
It is used to collect information from the clients.

Let practice one more time

Input



Output



Notice the position of the cursor

- ⇨ How we add a space between the question mark and the position where we shall type the first character of the name or number?

To do this, add a space after the question mark in the input code as shown below

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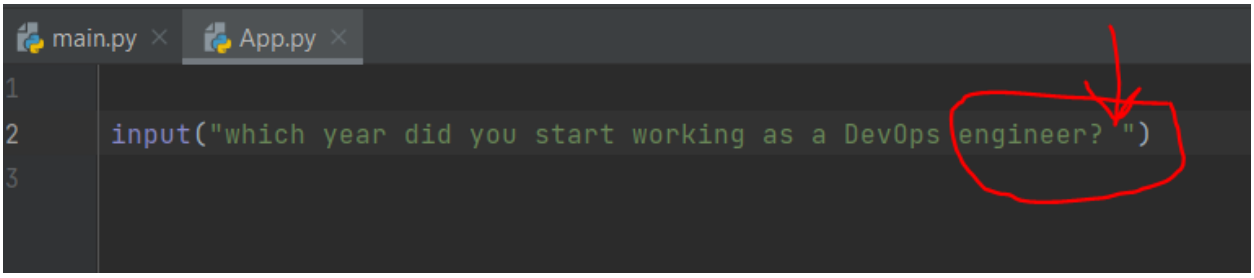
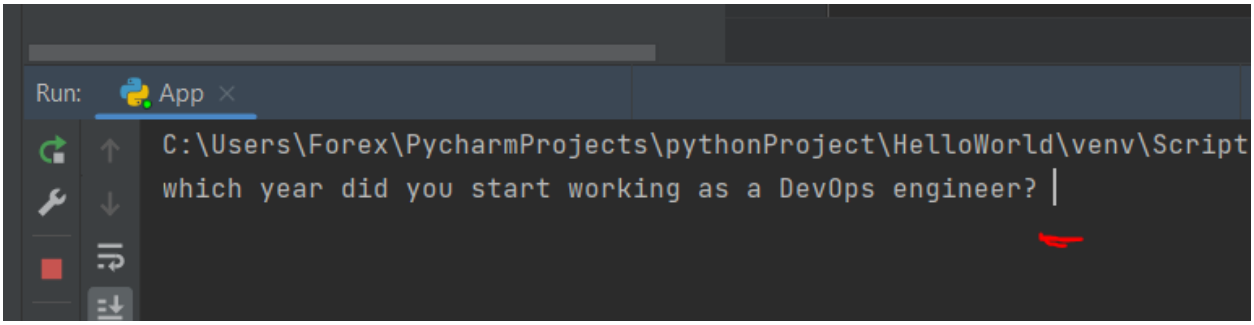


Output



Python String Concatenation

The ability to combine two or more strings in python

Input

```
# Assign Welcome string to the variable var1
var1 = "Welcome"

# Assign statistics string to the variable var2
var2 = "statistics"

# print the result
print(var1)
print(var2)
```

Output

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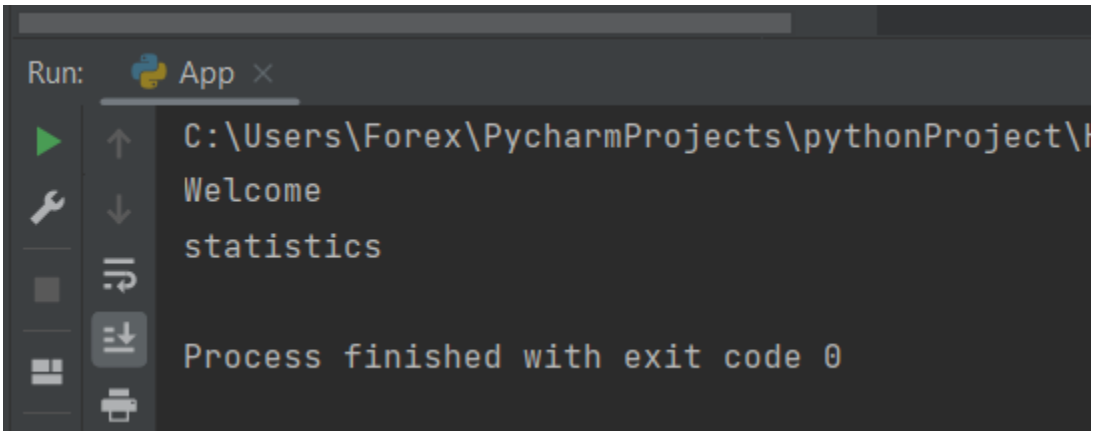
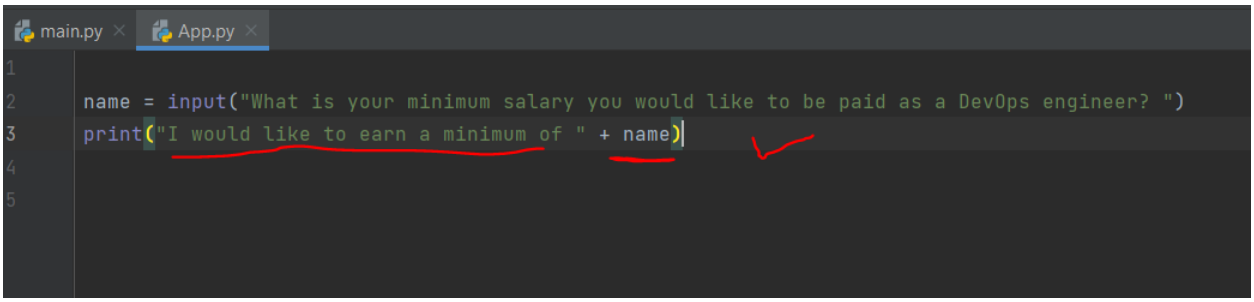
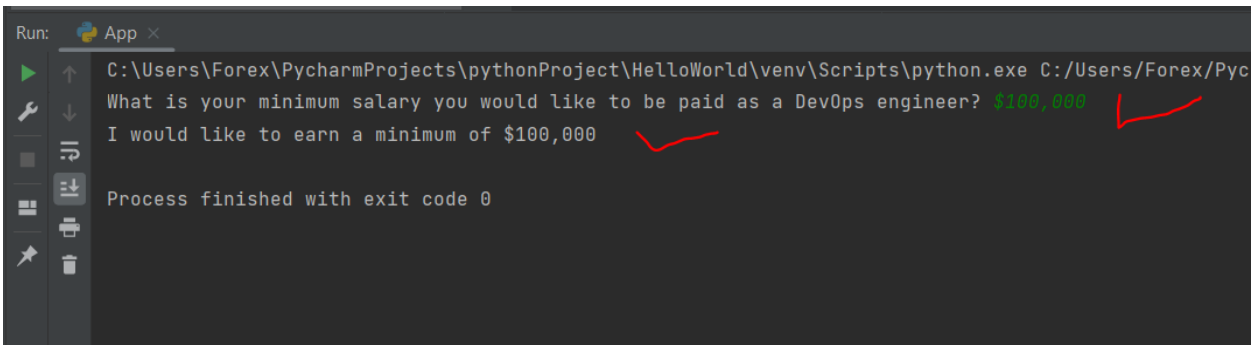


Input code/program



Terminal Output



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Built in functions such as int(), bool(), str(), float()

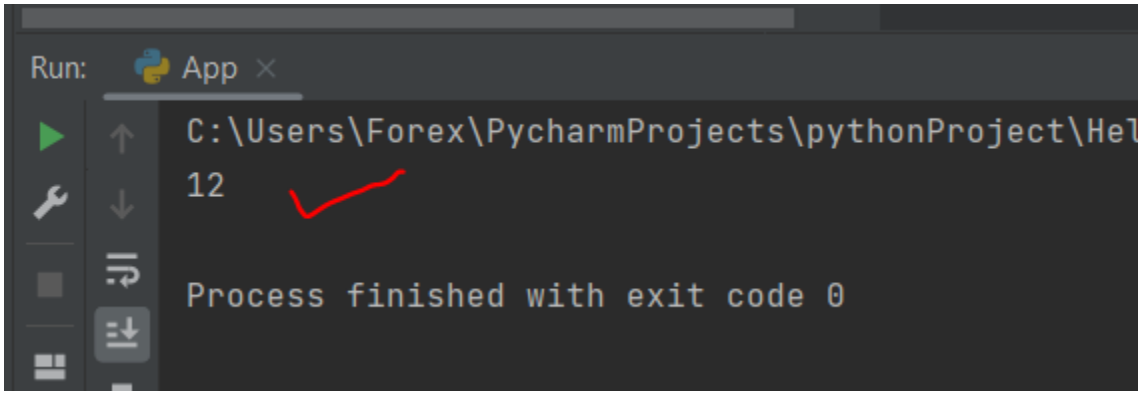
There are three types of data in python that you have been able to learn

Number

Input program

```
1
2   x = 4
3
4   y = 3
5
6   print(x*y)
```

Output from the terminal



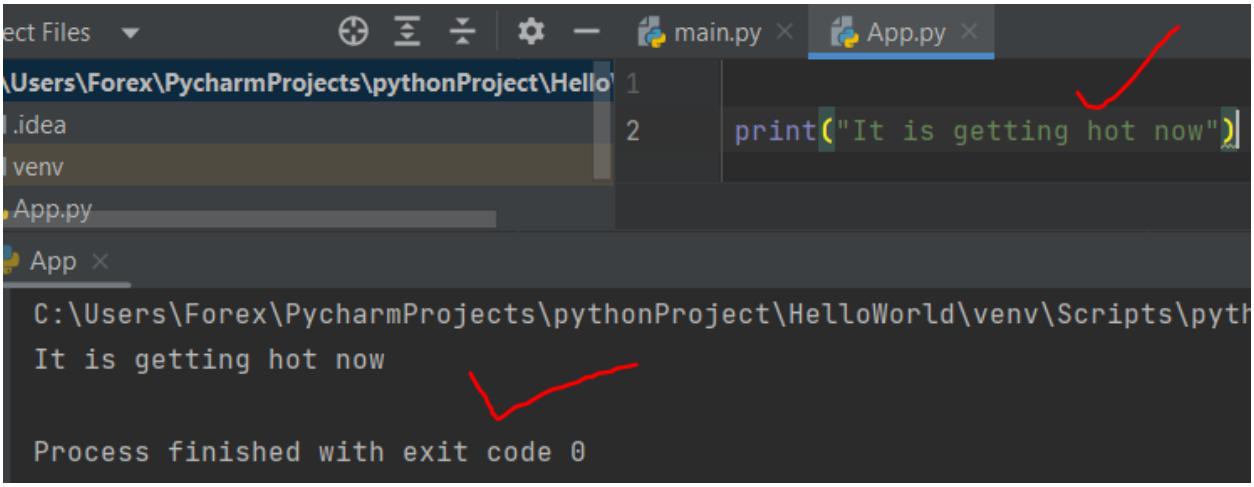
Simple projects

Python Scripting – Session 2

Practice how to

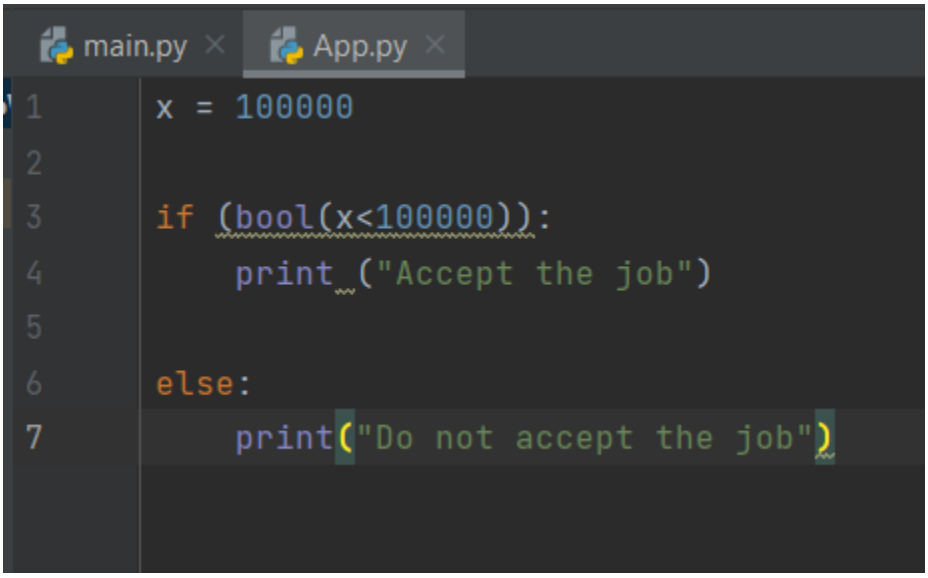
- ⇨ Add two or more variables
- ⇨ Subtract two or more variables
- ⇨ Divide tow or more variables

Strings ()



Booleon

Input



Output

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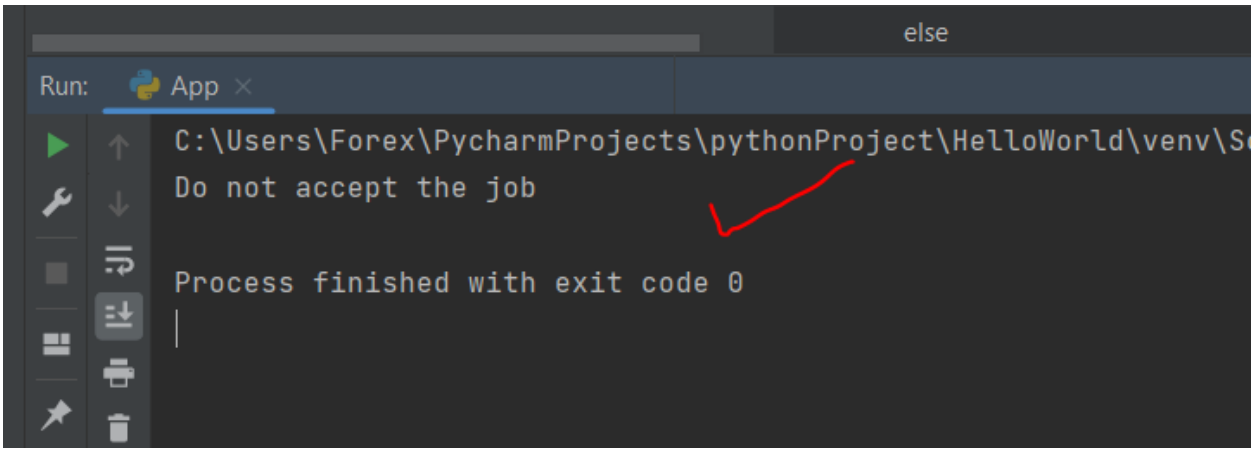

More Booleon

```
a = 0
b = 2
c = 4

if a > b and b< c:
    print(True)
else:
    print(False)

if a and b and c:
    print("All the numbers has boolean value as True")
else:
    print("Atleast one number has boolean value as False")
```

Output from the terminal

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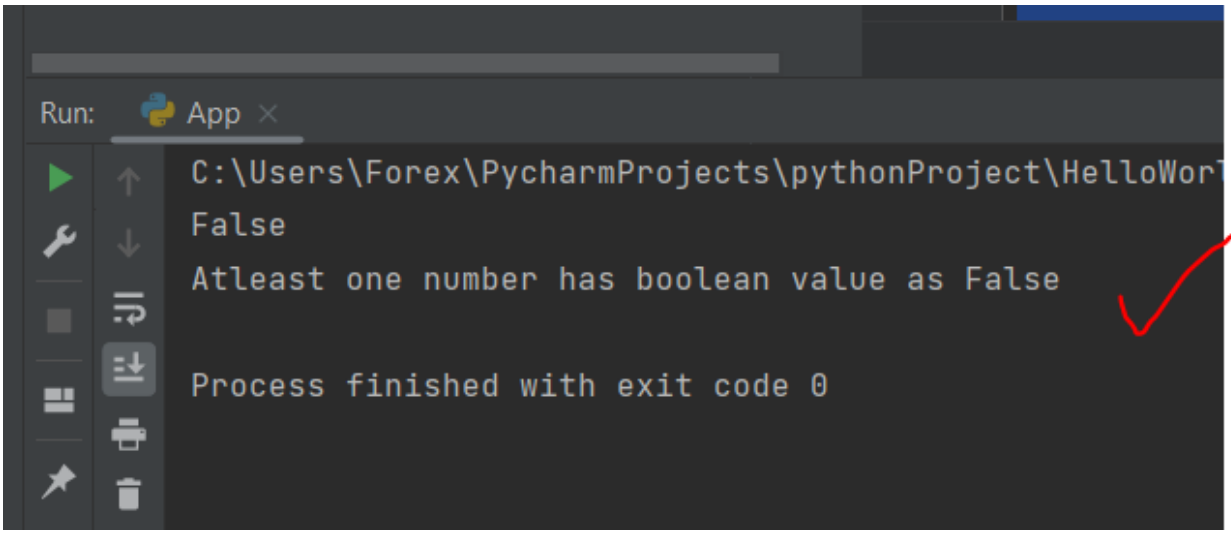


In python, there are times you are going to convert the value of variable from one type to the other.

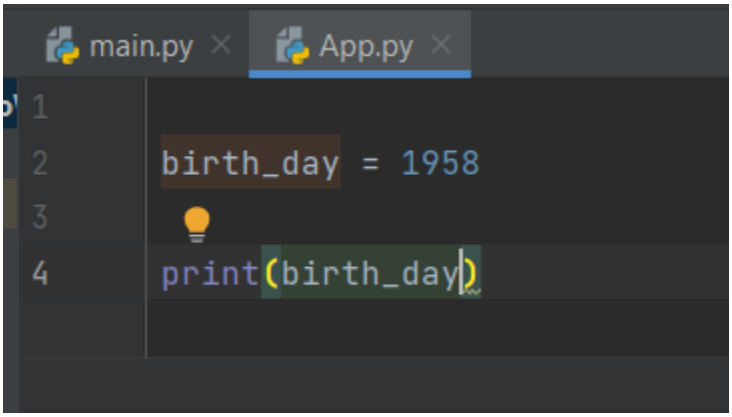
In this exercise, we are going to use INPUT function in python to read the birth year for a client

Remember we practiced how to create variables and store information such as price, age etc

Birth_Day = 1958

Print(Birth_Day)

Program input



Program output

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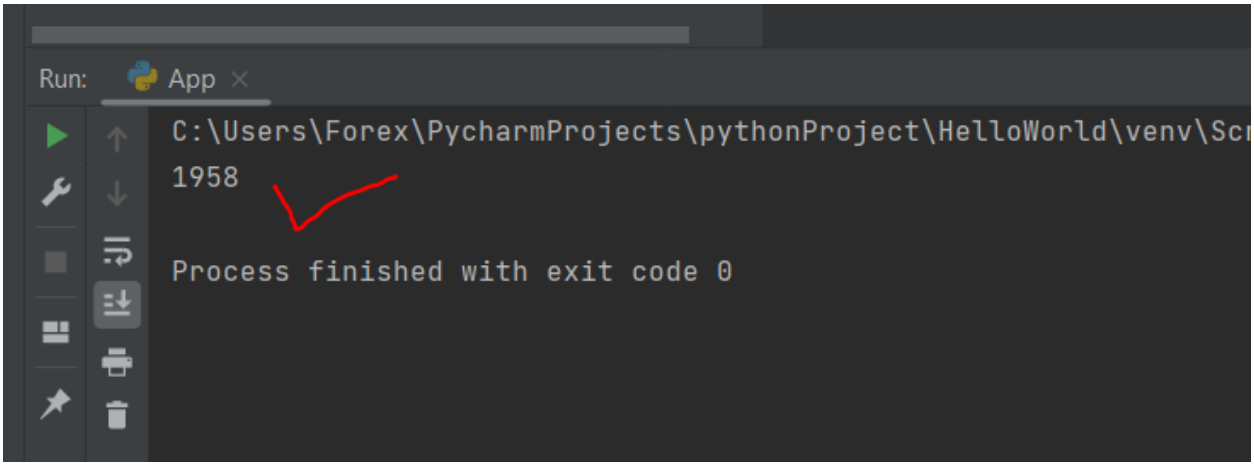
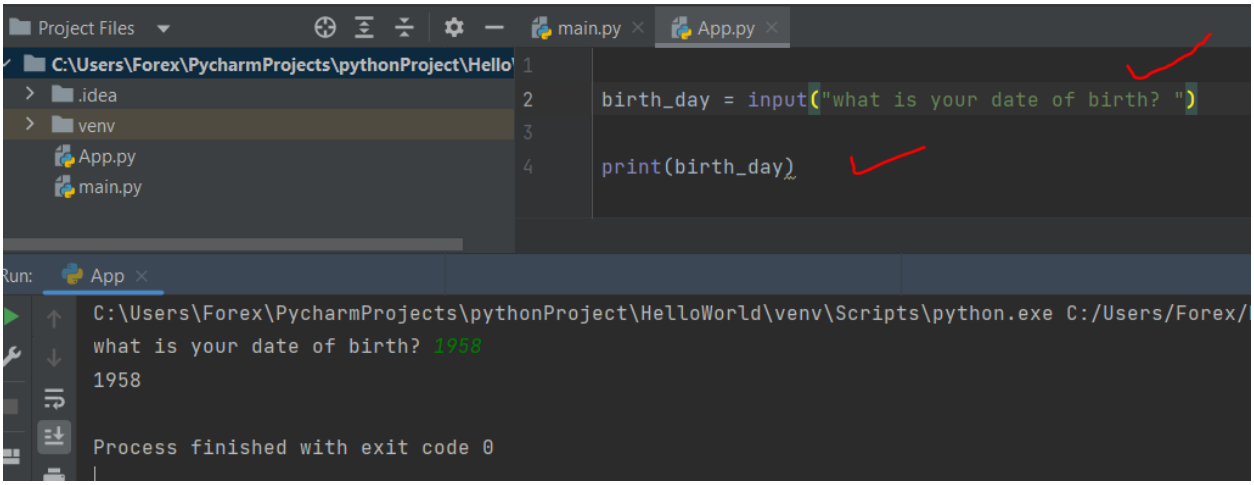
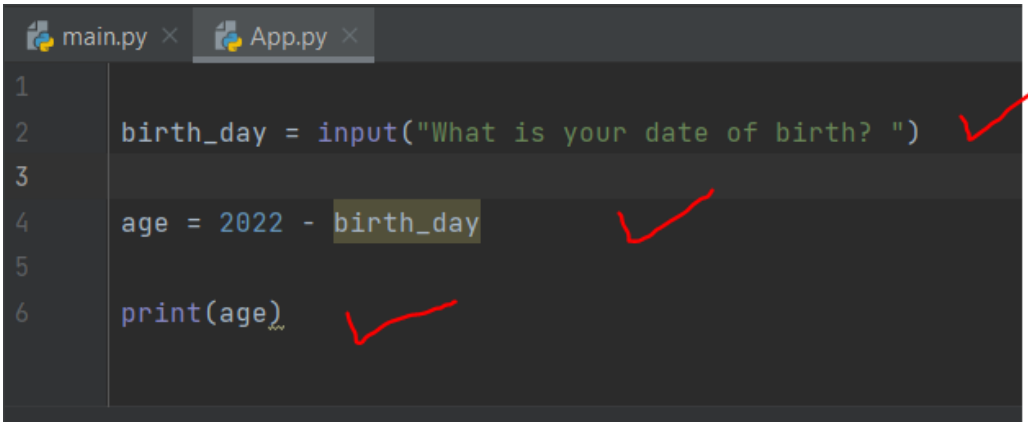


Another Example



Let us take this to the next level

Program input



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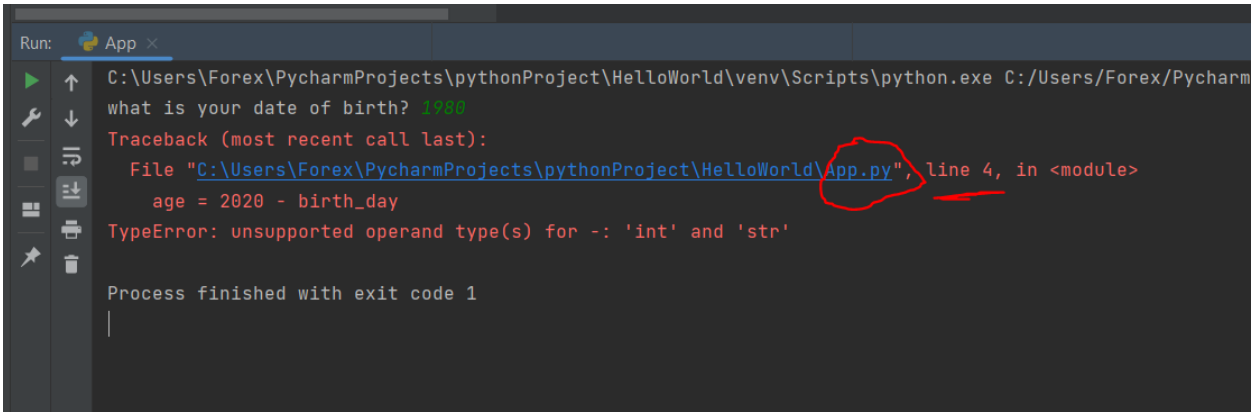
Program output

Let us run this program and see what happens



The program we are running is going to crash

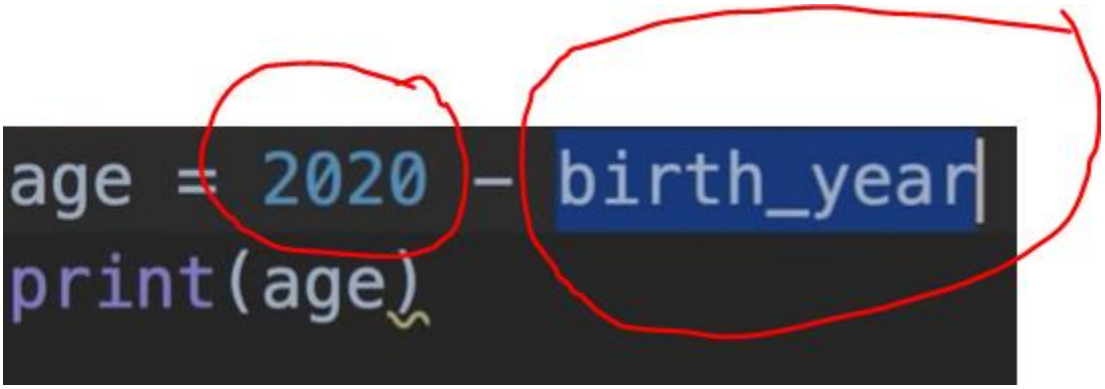
Python is going to display the file where the error occurred and even mention the line.

As you can see, it happened in a file called App.py

The pieace of code that generated the error is also highlighted

Then the type of error that occurred is also highlighted

- ⇨ Let analyze the error



2020 is an integer (int)

An interger is any whole number we run in python programs, like 10, 20, 11, 30, 2 etc

Strings (str) – a sequence of characters usually inside the double quotations marks

Python Scripting – Session 2

Birth_year is a varaibale that was used to store a string

“1982” is not the same as 1982

Because of doucble quotation marks, “1982” is a string(str) while 1982 is an integer(int)

That is the difference between the the numbers.

Why did this error occur?

```
    age = 2020 - birth_day
TypeError: unsupported operand type(s) for -: 'int' and 'str'
```

This error occurred because we are subtracting **a string (str)** from an **integer (int).**

To solve this roblem, we are going to convert the birthday which is a string(str) into interger(int).

How do we achieve this?

Python has a bult in function called int(), which helps us to convert **strings to integers** so that we can **subtarct intergrs from an interger**.

Example of an input intergers program

Integers(int)

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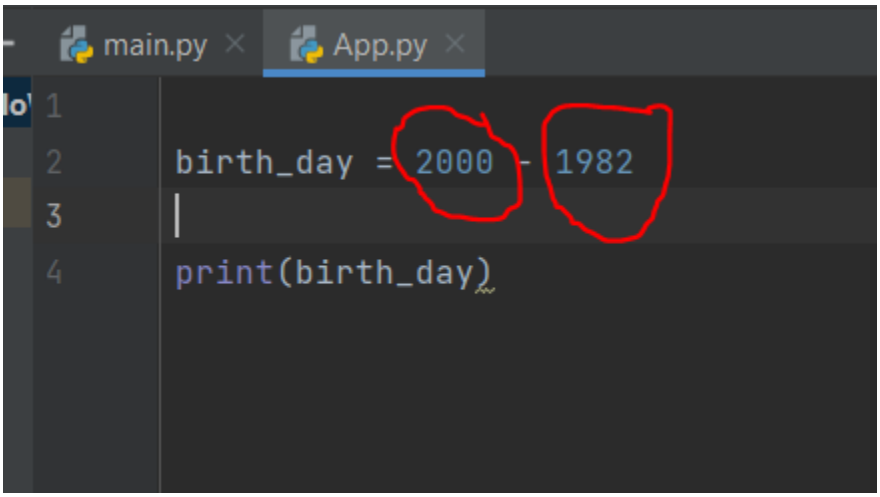
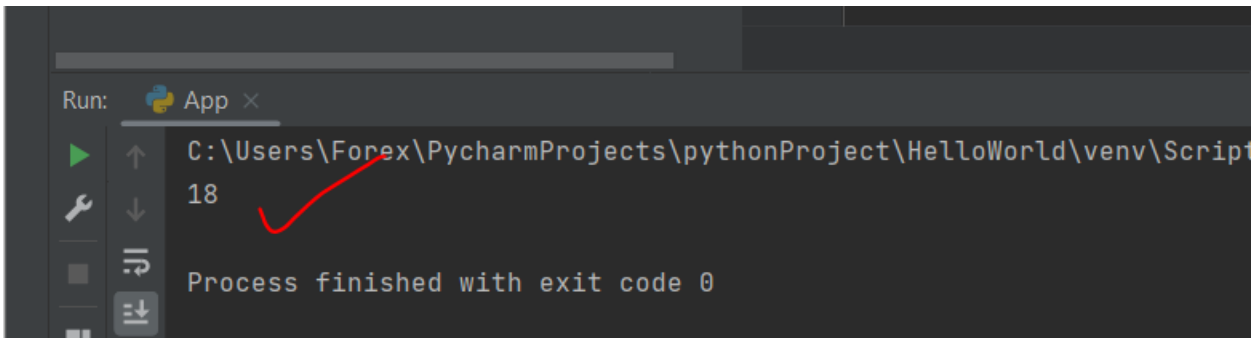


2000 is an integer (int)

1982 is an integer (int)

Output program



Worked!!!

Let now solve the error

Input program

Python Scripting – Session 2

```
main.py  App.py

1
2   birth_day = input("What is your date of birth? ")
3
4   age = 2022 - int(birth_day)
5
6   print(age)
```

Output program running on the terminal

```
Run:  App
C:\Users\Forex\PycharmProjects\pythonProject\HelloWorld\venv\Scripts\p
What is your date of birth? 2019
3

Process finished with exit code 0
```

Let see how this worked

In the first line of code, we called the built in function INPUT which was able to collect the information about the date of birth.

However, we must be very careful here.

The date of birth was collected in the form of a string(str)

We use the following line to convert the birthday entered in the first line in the form of a string into an integer (int)

We use the final line we are going to print the variable called age.

We have another built in functions in python called float()

It is used to convert a value to a float, which is a number with decimal

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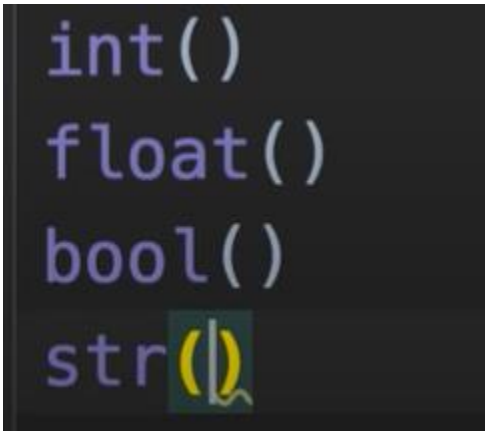
10 is an integer()

10.4 is a float()

Built in functions in python for converting one type of data to the other.



Int() is used to convert data to integers

Float() is used to convert numbers to decimal

Bool() is used to covert data to bool

Str() is used to convert data to strings(str)

Let run a simple calculator program that will add two values

Input program

App.py

```
1
2   First_Number = input("First_Number= ")
3
4   Second_Number = input("Second_Number= ")
5
6   sum = int(First_Number) + int(Second_Number)
7
8   print(sum)
9
10
```

Output program

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