

# Getting started with Python- Writing Your First Program in Python

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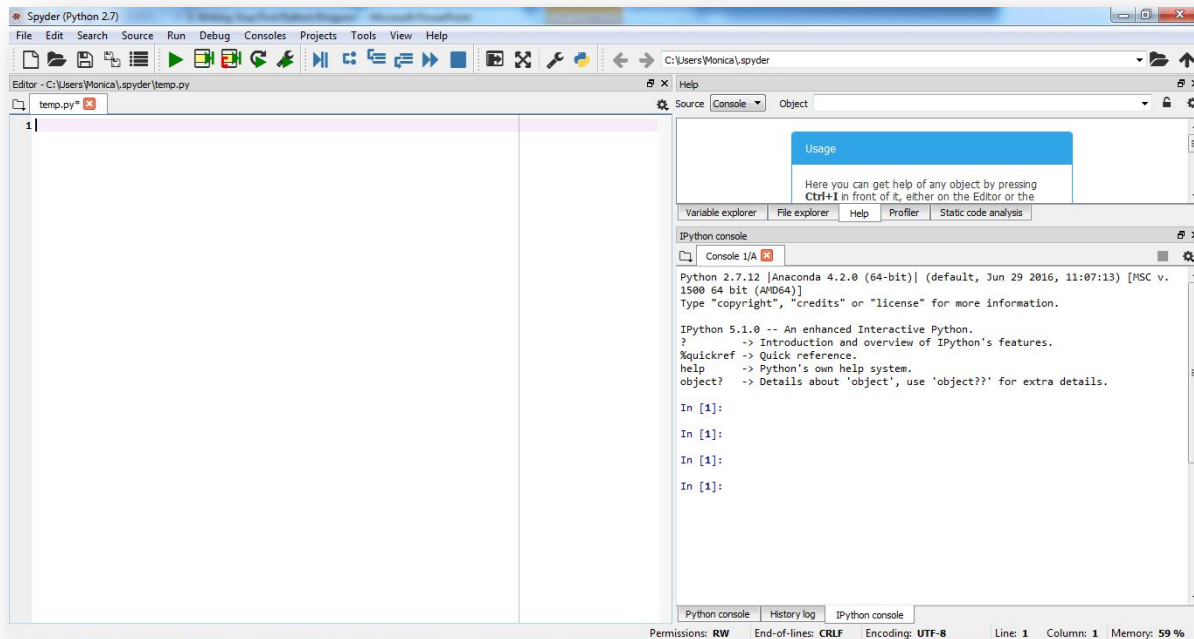
# Opening Spyder

In our last session we had installed Spyder and seen its features. Now we will program.

## Open Spyder

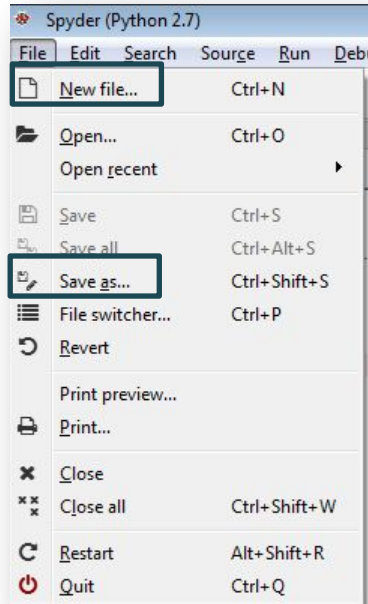
First go to Start menu, find Spyder, open it. We will see an environment like this.

Alternatively, you can open Spyder by typing spyder in your command shell.



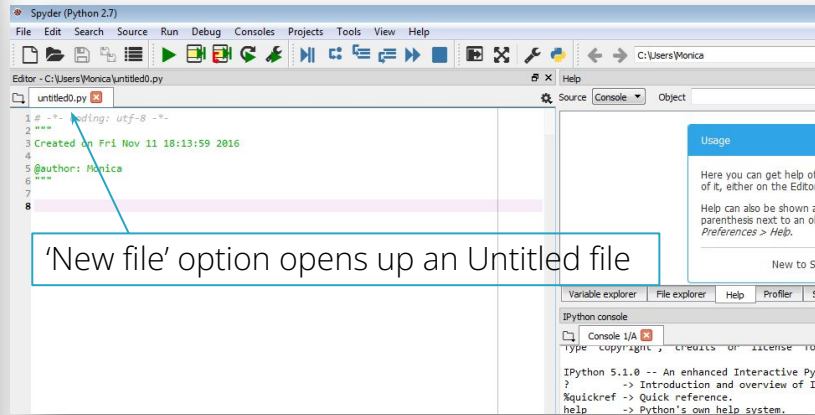
# Create and Save Your File

- By default it opens a temp.py file. We can also open a new file, write commands, execute them. Save the file at a desired location. It helps to save the script for later use.



To open a new file, File menu → New file.

To save this file, File menu → Save as....



# Writing your First Program in Python

Creation of object (an object can store values and further can be used in multiple tasks):

```
# Create an object x and assign a value 20
```

```
x=20
```

```
x
```

```
20
```

- The '=' operator is used to assign the values to an object.
- Execute or run the command using the enter key in python console and F9 key in Editor. You can run a single command, bunch of commands by highlighting those, or the entire file at once.
- Comments are used to describe the code and can be added by preceding all comments with the # symbol.

# Writing your First Program in Python

Create another object and perform some mathematical calculations using both the objects

```
# Create an object y and assign a value 15
```

```
y=15
```

```
y
```

```
15
```

```
# Add x and y
```

```
x+y
```

```
35
```

```
# Multiply x with y
```

```
x*y
```

```
300
```

- '+', and '-' are Arithmetic operators. There are more such operators for which we have a dedicated session at a later stage.

# Writing your First Program in Python

How to print a message?

```
print ("Welcome to Ask Analytics")
```

Welcome to Ask Analytics

- `print()` is a python command to print a text message which must be enclosed in quotes.

Print numbers:

```
print (55)
```

55

```
print (4*5)
```

20

# Writing your First Program in Python

We can use print command to join multiple words, strings(sequence of characters), numbers.

- To join multiple items to form a single sentence, separate the items to be printed with comma ( , ) operator.

```
print ("This is", "session no.", 3)
```

```
This is session no. 3
```

- Different operators and formatting options that can be used with print command are:

,	To print multiple strings in a line
+	To concatenate two strings into a single string
%	To concatenate strings and integers



# Writing your First Program in Python

There is more we can do with %.

Use %s to print string, %d to print integers, %f to print floating point numbers. For example:

```
x=14
print ("He is %d years old" %x)

He is 14 years old
```

# Help in Python

- Python has an interactive built-in help system consisting of a documentation for modules, objects or methods.
- To access help in Python, `help()` function is used.
  - Write `help()` with no argument in brackets and execute it, the interactive help system starts on the console. Type the name of module, function, class, method, or keyword in the console and get the built-in documentation printed on the console. To exit, type "quit".
  - Another way of getting information is by writing:  
`help(x)` in Editor, execute it and the documentation is displayed on the console. 'x' can be any kind of object, module, function, package or keyword.

# Quick Recap

In this session, we learnt how to work, create and save scripts, create objects, see their output and perform calculations on them and get help in R:

## Write a program

- To assign values to an object: Use operator '='.
- Press Enter & see the value of the object in console
- Add comments for reference using # symbol

## Help in Python

- If you know the topic but not the exact function:  
**help()** the interactive help system starts on the console.
- If you know the exact function:  
**help(functionname)**