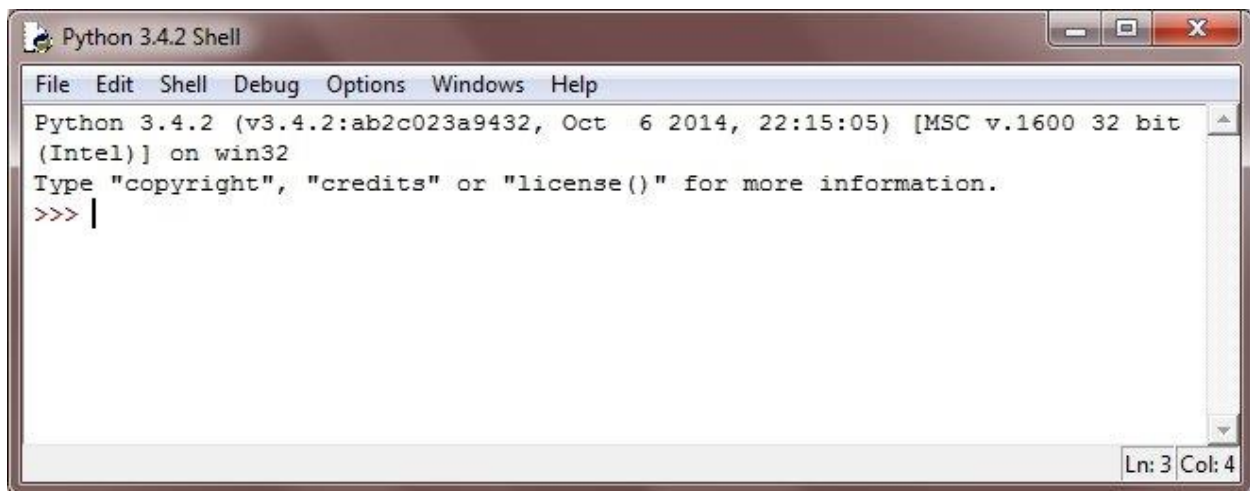# What is Python ?

Python is a high-level, object-oriented, interpreted, and interactive scripting language.

Python Environment Setup Windows

Here are the steps to setup python environment on your windows platform. Let's consider you are downloading python 3.4.2

- Download "python-3.4.2" setup from internet
- Install it on your system
- Now goto **Start** -> **All Programs** -> **Python 3.4** -> **IDLE (Python 3.4 GUI - 32 bit)**. Open it
- After opening the Python IDLE, here is the sample window that will come out
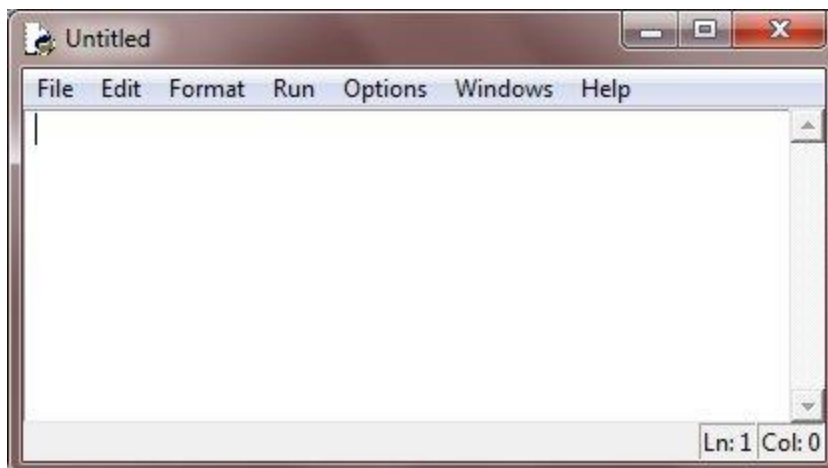
- After opening the Python IDLE, here is the sample window that will come out
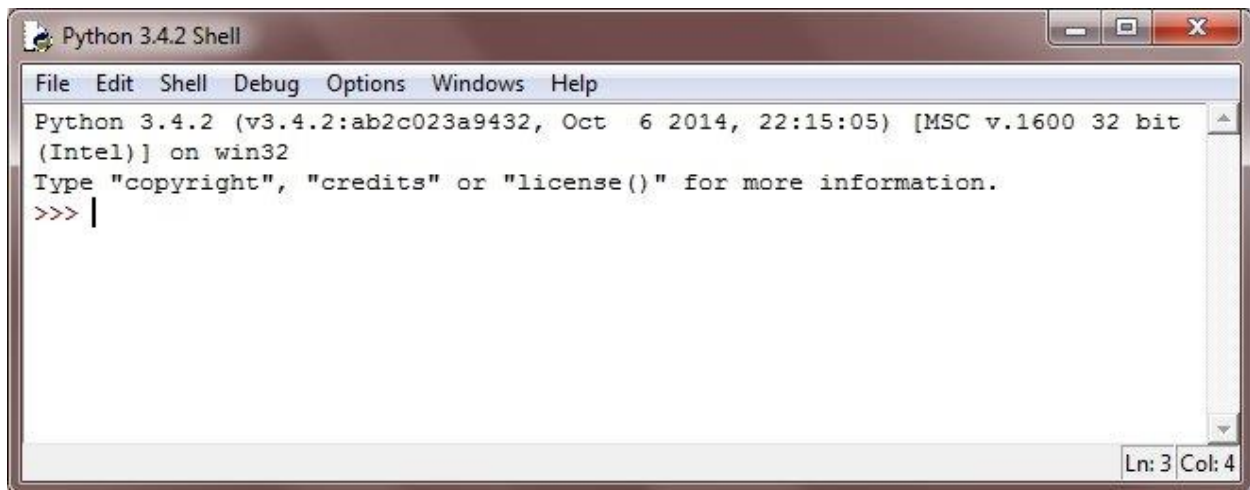
Now, to write your python code, just go to the top-left of the window and then click **FILE -> NEW FILE**. Now, again a new blank window (code editor window) will come out which looks like:
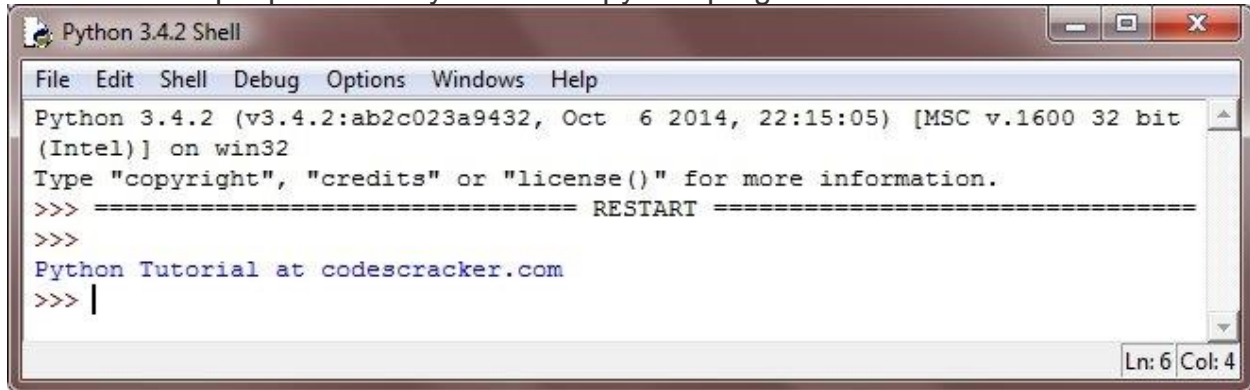

You can use this window to write your python code. Now write the below code in this window, or just do copy and past operation of the code provided here:

Here is a simple [Python example](#).

```
# Python Tutorial for beginner - Learn Python

print("Python Tutorial at codescracker.com")
```

Here is the output produced by the above python program:
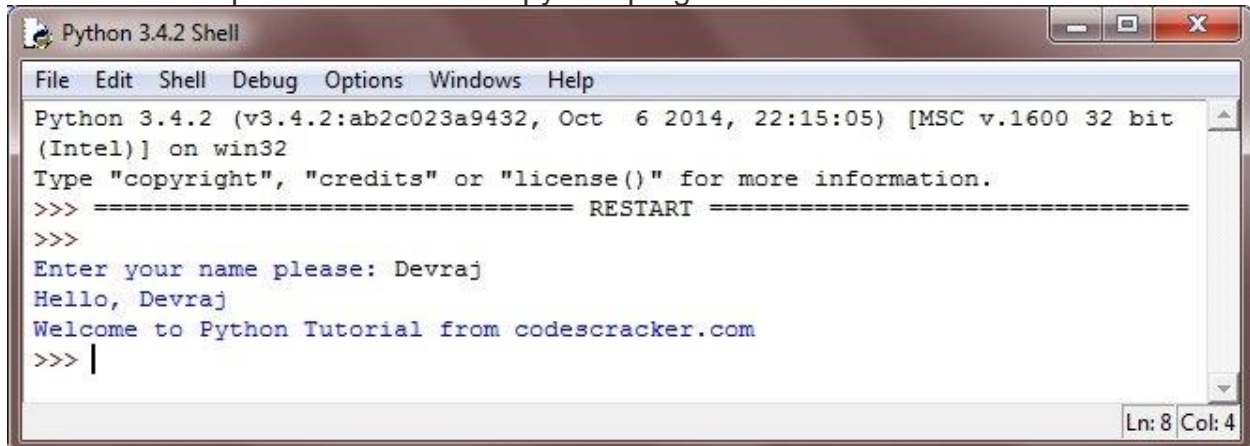
Here is another [python program](#):

```
# Python Tutorial - Learn Python - Python Tutorial for Beginner

str = input("Enter your name please: ")
print("Hello,", str, "\nWelcome to Python Tutorial from codescracker.com");
```

Here is the sample run of the above python program:

(single line comment), up to the physical line end. Here is an example of single line comment in Python:

```
# Python Basic Syntax - Example Program
# We are comments
print("Hello World, I am Python"); # i am also comment
```

This will produce the following output:

Note - Python is case sensitive language, therefore Codescracker and codescracker are the two different identifiers in Python.

Basically data type represents the type of value and determines how the value can be used in a python program.

There are following five standard data types available in Python programming:

- Numbers type
- Strings type
- List type
- Tuple type
- Dictionary type

You will learn all about the above listed data types available in Python later in separate tutorials.

Python Data Type Example

Here are some examples of number data type in Python.
```
i = 10
f = 23.43
total = 987
```

Here is an example of string data type in Python.
```
str = "Hello World, I am Python Data Types"
```

Here is an example of list data type in Python.
```
list = [10, 20, 30, 'hi', 'hello', 43.23, 432.42, 'python']
```
Here is an example of tuple data type in Python.
```
tuple = (10, 20, 30, 'hi', 'hello', 43.23, 432.42, 'python')
```
Here is an example of dictionary data type in Python.
```
dict = {'number': 10, 'code': 20, 'name': 'python'}
```
Let's take an example of data type in Python. This example contains, integer, floating-point, and string type value to the variable namely **int_var**, **float_var**, and **str_var**.

Python Arithmetic Operators

Here the following table lists the arithmetic operators available in python with their name and meaning:

Operator	Name	Meaning
+	Addition Operator	Add two values
-	Subtraction Operator	Used for subtraction
*	Multiplication Operator	Used for multiplication
/	Division Operator	Used for division
%	Modulus Operator	Returns remainder after dividing
//	Floor Division Operator	Returns the quotient without any digits after decimal
**	Exponent Operator	Used to perform exponential calculation on operators

Decision making statements in python, helps in controlling your program accordingly.
There are the following decision making statements available in Python:

- if statement
- if-else statement
- nested if statement

Loops in Python are used to control your program. Loops are basically used to execute a block of code several number of times accordingly. There are the following types of loops available in Python:

- for loop
- while loop

- nested loop

A function in python, is a block of code, used to perform a particular action.

Python Function Definition

To define a function in python, follow these rules:

- function blocks in python, begins with the keyword **def**, followed by the function name and then parentheses
- the parameters/arguments should be placed inside these parentheses
- the code block of the function starts with a colon (:)
- and now the return statement exits a function, passing back an expression to the function caller
- a return statement with no any arguments is the same as return None

Here is the general form to define a function in python:

```
def function_name(parameters):
      "function_doc_string"
      function_suite
      return [expression]
def printit(strn):
      "This will print the passed string into this function"
      print(strn)
      return
```