

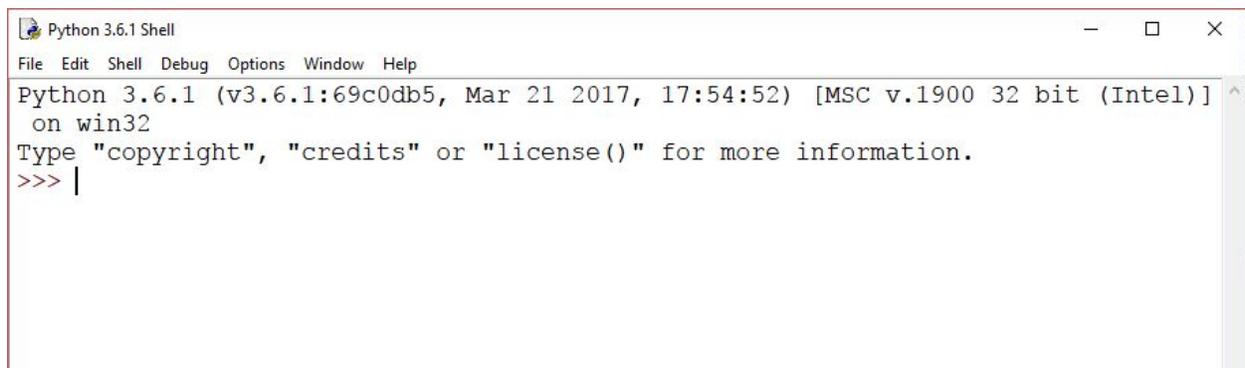
Using IDLE

What is IDLE

IDLE is the **interactive development environment (IDE)** that is used by default with Python. An IDE is a text editor specifically made for programming. It often comes with other tools, like a shell, a debugger, and a packager. Don't worry, though: IDLE is simple and easy to use.

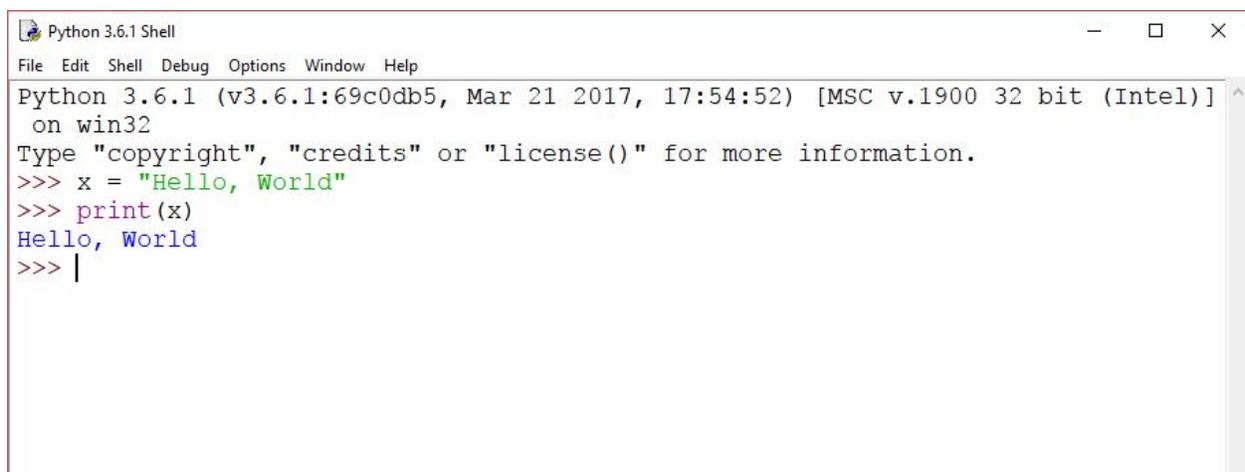
To open IDLE, go to the folder that Python is in and open the file "pythonw." Or, simply search your computer for it and open the first file that shows up.

Using the Shell



```
Python 3.6.1 Shell
File Edit Shell Debug Options Window Help
Python 3.6.1 (v3.6.1:69c0db5, Mar 21 2017, 17:54:52) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>> |
```

The first window you will see is the **shell**. A shell is a programming interface that allows code to be input line-by-line. The ">>>" indicates that the user can start entering code that the shell will run. It will also maintain any data you put in for the lifetime of the shell.



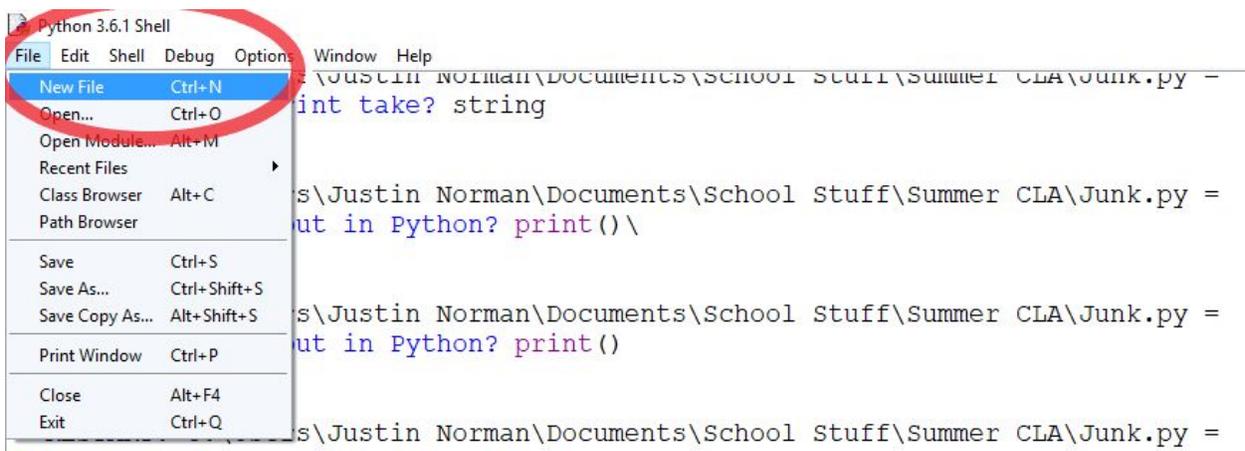
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on win32
Type "copyright", "credits" or "license()" for more information.
>>> x = "Hello, World"
>>> print(x)
Hello, World
>>> |
```

For example, the above code created a variable and printed it out. It's not important that you understand what this is yet. Just remember that the shell can run code like a normal program. If you are tasked with doing some simple coding, you can just use the shell.

Try it yourself: type `print("Hello, World!")` into the shell and press enter.

Creating a Program

The shell is useful, but you will want to create entire programs that can be run again and again. To create a new program, go to the headers and select File -> New File. You can also do this by pressing [Cmd] + [N] on macOS and [Ctrl] + [N] on Windows.



This will open a blank text editor. This is where you will type the code for your programs. You can treat this like a regular file. Anything you would normally do, like open, close, save, save as, etc., can all be done under File. To save the file, you can also press [Cmd] + [S] on macOS and [Ctrl] + [S] on Windows. The standard file extension for Python programs is .py. All Python programs will be named "[name].py". For simplicity, you should save everything to the folder that Python is in. When working with the robot, you must save programs that use the robot in the folder that has the robot's programs inside of it.

Try it yourself: create a new program in IDLE and save it as "Hello World.py."

Writing a Program

To program, all that you have to do is write text. Of course, this text must be syntactically and semantically accurate, so it may be hard to read and write. To help you with this endeavor, many IDEs, including IDLE, allow you to put comments in the code. These are explanatory lines of text that tell the reader what certain parts of the code does or how it's intended to work. To insert a comment, place a "#" before the text you mean to comment.

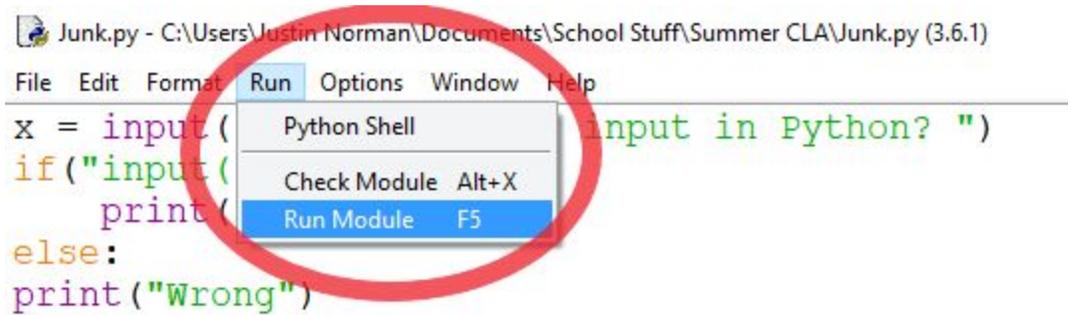
To help you program, IDLE also colors text to indicate its significance. The color codes are as follows:

- Red: comments
- Orange: keywords
- Blue: definitions
- Green: strings
- Purple: built-in functions

Try it yourself: write the line `print("Hello, World!")` into the IDLE program. As a comment, write `#print("this will not print!")` on the next line. We will run this next.

Running a Program

Let's say you've created a program, and you want to run it. To run a program, go to the top of the editor and select Run -> Run Module. You can also press [F5] on your keyboard. If your keyboard has a function key (Fn, usually), press [Fn] + [F5].



Try it yourself: run the program you just wrote.