ICTPRG302 - Apply introductory programming techniques –

Session 1 Worksheet

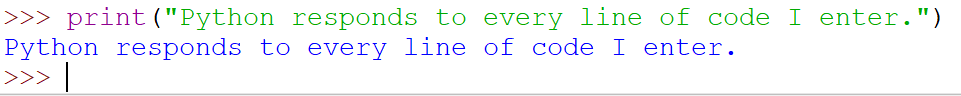
Writing Python Code

IDLE is the Python environment we will be using today (Search for IDLE 3.9x).

The shell is the default mode of operation for Python IDLE. You can type in, for example:

* print("Python responds to every line of code I enter.")

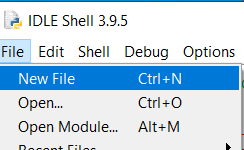
Press Enter.



Creating a File

Python programs are files with the **.py** extension. Python idle will give you the ability to create and save your files.

Opening a new window will create a script file window. Chose New from the File menu as illustrated below.



Note that you can also open an existing Python file by selecting File=>Open…

Editing a File

It is time to start writing your code. Type and run the following code.

* print("Hello, World!")

Graphical user interface, text, application

Description automatically generated

To run a file in IDLE, simply press the **F5** key on your keyboard. You can also choose *Run Module* from the **Run** menu (see above). Note that IDLE will remind you to save your file whenever you attempt to execute an unsaved file.

Saving a File

Graphical user interface, text, application, chat or text message

Description automatically generated

Click OK and save it as session1.

Graphical user interface

Description automatically generated

Click Save.

As you can see, your program consists of the following parts:

* function print()
* an opening parenthesis
* quotation marks
* a line of text: Hello, World!
* a closing parenthesis.

“Print” is a function name. Where do the functions come from? From Python itself.

function\_name(argument)

The only argument given to the **print()** function is: Hello, World!

“Hello world!” – is string

TASKS

* Task 1: use the print() function to print **I like Python** to the screen. Use double quotes around the string.
* Task 2: the empty print() invocation outputs a newline. Write the following code:
  + print("Python is free and open source.")
  + print()
  + print("Python is easy to understand.")

Task 3: The print() function - the escape and newline characters. The backslash **(\)** can be used inside strings - it is called the escape character. The letter n placed after means *start a new output line*. Write the following code:

* + print("Python is free and open source.\n")
  + print("Python is easy to understand.")

Task 4: the arguments are separated by commas. Write the following code:

* + print("Python is free and open source.", “Python is just the language for you.”, “Python enables programs to be written compactly and readably.”)

Task 5: the keyword argument “end”. Run the following code to see how it works.

* + print("Python is free and open source.", end=” “)
  + print("Python is easy to understand.")
  + print("Python is extensible.", end=”“)
  + print("Python is simple to use.")

Task 6: The keyword argument named sep. Run the following code to see how it works.

* + print("Some Python”, “modules”, “are also useful as scripts.", sep=” \*“)

Task 7: using both keyword arguments. Run the following code to see how it works.

* + print("By default”, “this code”, “ends with a newline..", sep="\*", end="\*\n")



(Note that a simple copy and paste method may not work. Check your output.)

Task 8: Research and complete the following table:

|  |  |
| --- | --- |
| Language | Advantages |
| **Interpreted** | 1)  2) |
| **Compiled** | 1)  2) |