ARBOR INTERNATIONAL SCHOOL

E-Learning module/file

GRADE: 6 MONTH/WEEK/DATE: April/ W-2/11-04-22 to 16-04-22

SUBJECT: **COMPUTER SCIENCE** NAME OF THE TEACHER**:** Mr. Murali Krishna

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Notes for the parent

- Dear parents, we hope that this learning module for the week serves its purpose with regard to students' understanding and learning.

- The learning content for the week is attached day-wise in this module to facilitate learning for your ward.

- For better clarity, kindly zoom the content.

- You can enlarge the content by clicking on the right bottom corner of the screen where the zoom option is given.

- Please refer to the page numbers of the textbook mentioned in the module for the learning content which is mentioned in the day-wise planning. E-content is attached in the module as well.

- Important notes for the chapter are attached with the learning module and the student must go through those for revision of the concepts.

- By the end of the week, the students would be able to understand the following:

  - ➢ Students will be able to understand the features of Python, its application.
  - ➢ Students will be able to know how to install Python & how to run in interactive mode & Script mode.

  Thank you.
  Murali Krishna

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Days	Topic
Day 1	Ch-7: Introduction to Python
Day 2	Ch-7: Introduction to Python

CONTENT- DAY-1

Ch-7: Introduction to Python

What is Python?

Python is a popular programming language. It was created by Guido van Rossum, and released in 1991.

It is used for:

- web development,
- software development,
- mathematics,
- System scripting.

What can Python do?

- Python can be used on a server to create web applications.
- Python can be used alongside software to create workflows.

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- Python can connect to database systems. It can also read and modify files.
- Python can be used to handle big data and perform complex mathematics.
- Python can be used for rapid prototyping, or for production-ready software development.

Why Python?

- Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc.).
- Python has a simple syntax similar to the English language.
- Python has a syntax that allows developers to write programs with fewer lines than some other programming languages.
- Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.

Python Syntax compared to other programming languages

- Python was designed for readability and has some similarities to the English language with influence from mathematics.
- Python uses new lines to complete a command, as opposed to other programming languages which often use semicolons or parentheses.
- Python relies on indentation, using whitespace, to define scope; such as the scope of loops, functions, and classes. Other programming languages often use curly brackets for this purpose.

Example

```
print ("Hello, World!")
```

Python Install

If you find that you do not have Python installed on your computer, then you can download it for free from the following website: https://www.python.org/

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Python QuickStart

Python is an interpreted programming language, this means that as a developer you write Python (.py) files in a text editor and then put those files into the python interpreter to be executed.

The way to run a python file is like this on the command line:

```
C:\Users\Your Name>python helloworld.py
```

Where "helloworld.py" is the name of your python file.

Let's write our first Python file, called helloworld.py, which can be done in any text editor.

helloworld.py

```
print ("Hello, World!")
```

Save your file. Open your command line, navigate to the directory where you saved your file, and run:

```
C:\Users\Your Name>python helloworld.py
```

The output should read:

```
Hello, World!
```

CONTENT- DAY-2

How to Run a Python Script

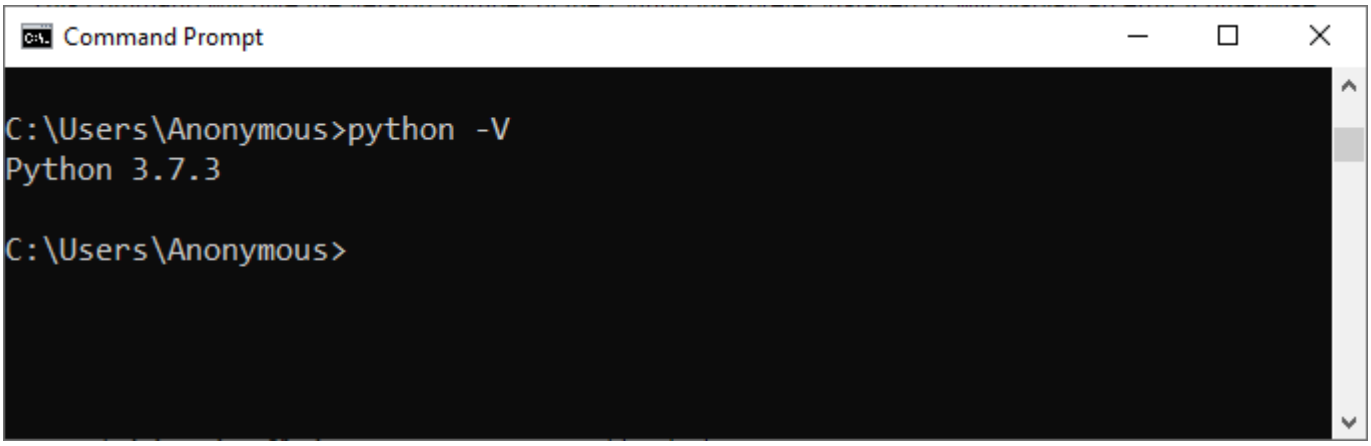
Python is a well-known high-level programming language. The Python script is basically a file containing code written in Python. The file containing the python script has the extension '.py' or can also have the extension '. pyw' if it is being run on a windows machine. To run a python script, we need a python interpreter that needs to be downloaded and installed.

Here is a simple python script to print 'Hello World!':

print ('Hello World!')

Here, the 'print ()' function is to print out any text written within the parenthesis. We can write the text that we want to be printed using either a **single quote** as shown in the above script or a **double quote**.
There is more than one way to run a python script but before going toward the different ways to run a python script, we first have to check whether a python interpreter is installed on the system or not. So, in windows, open **'cmd' (Command Prompt)** and type the following command.
python -V

This command will give the version number of the Python interpreter installed or will display an error if otherwise.



Different ways to run Python Script
Here are the ways with which we can run a Python script.

1. Interactive Mode
2. Command Line
3. Text Editor (VS Code)

1. **Interactive Mode**:
   In Interactive Mode, you can run your script line by line in a sequence.
   To enter in an interactive mode, you will have to open Command Prompt on your windows machine and type 'python' and press Enter.

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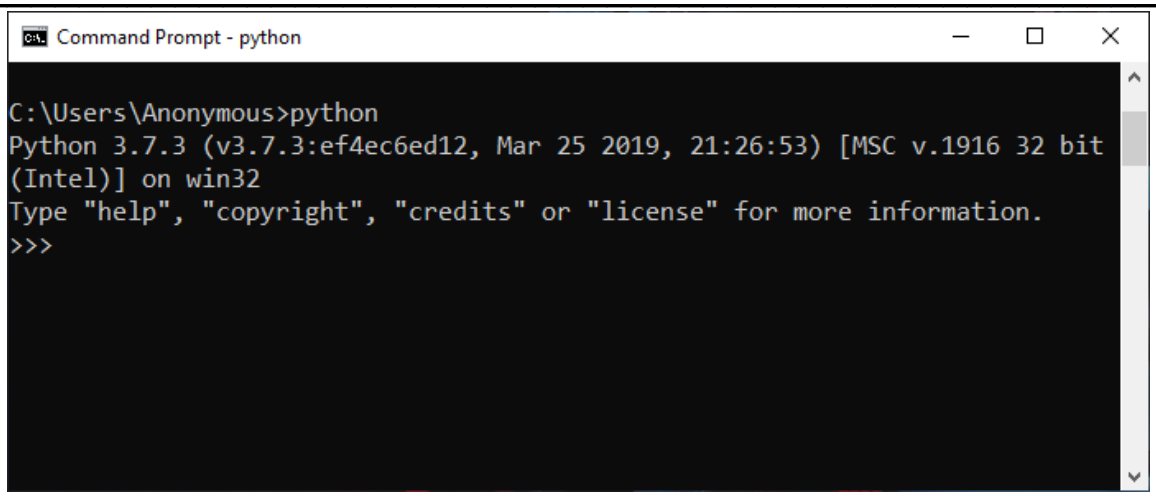
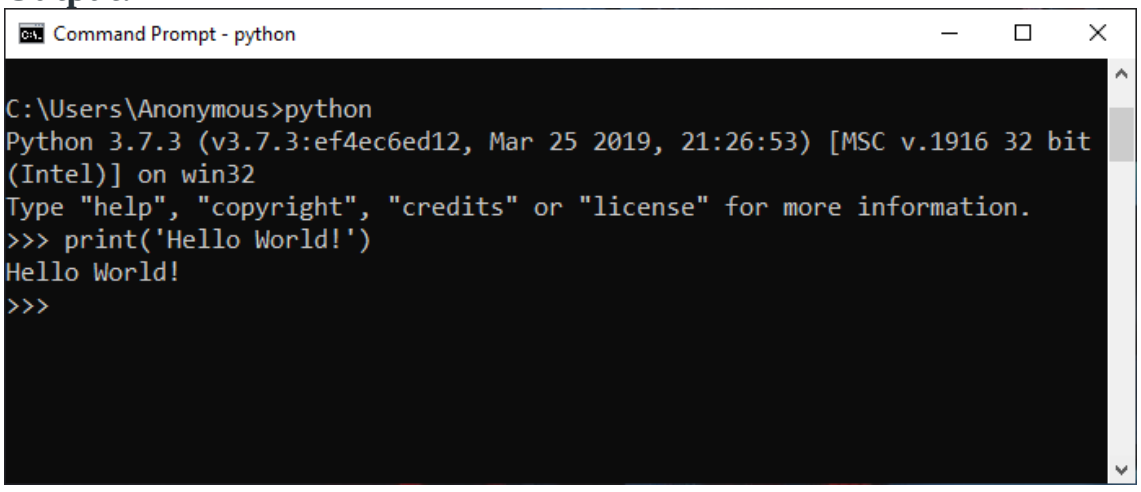


Example 1:

Run the following line in the interactive mode:

Print ('Hello World!')

Output:



Example 2:

Run the following lines one by one in the interactive mode:

```
name = "Aakash"
print("My name is " + name)
```

Output:

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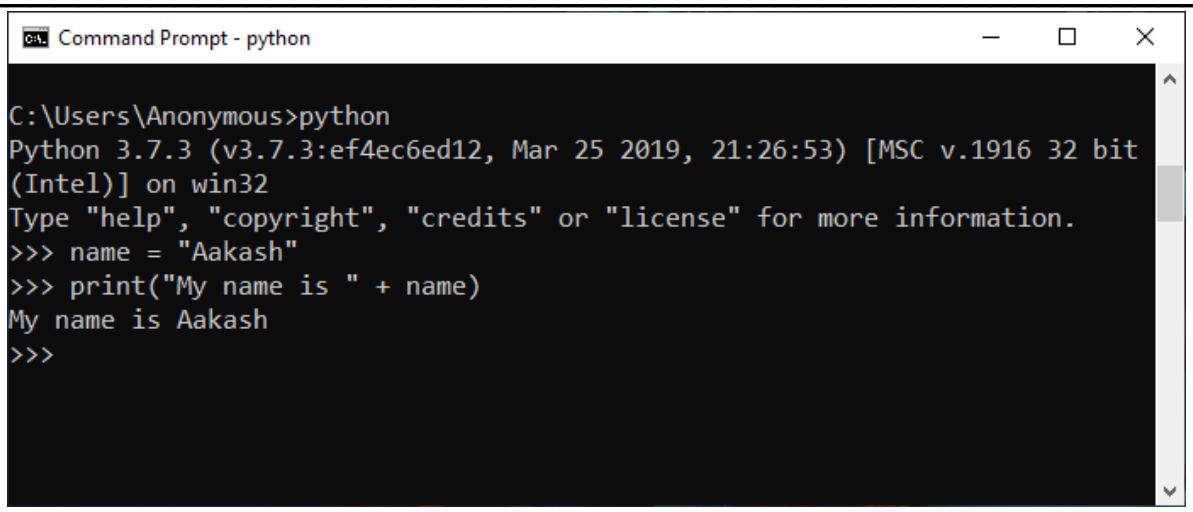

Example 3:

Run the following line one by one in the interactive mode:

```
a = 1
b = 3
if a > b:
    print("a is Greater")
else:
    print("b is Greater")
```

Output:

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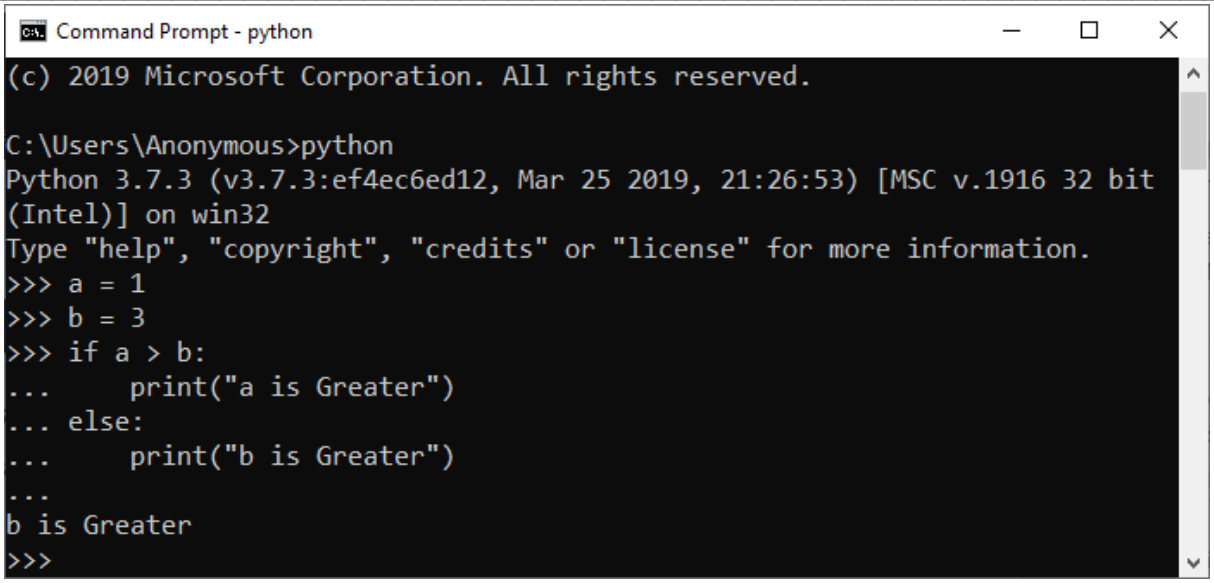

Note: To exit from this mode, press 'Ctrl+Z' and then press 'Enter' or type 'exit()' and then press Enter.

2. **Command Line**
   To run a Python script store in a '.py' file in the command line, we have to write the 'python' keyword before the file name in the command prompt.
   python hello.py

   You can write your own file name in place of '**hello.py**'.

Output:

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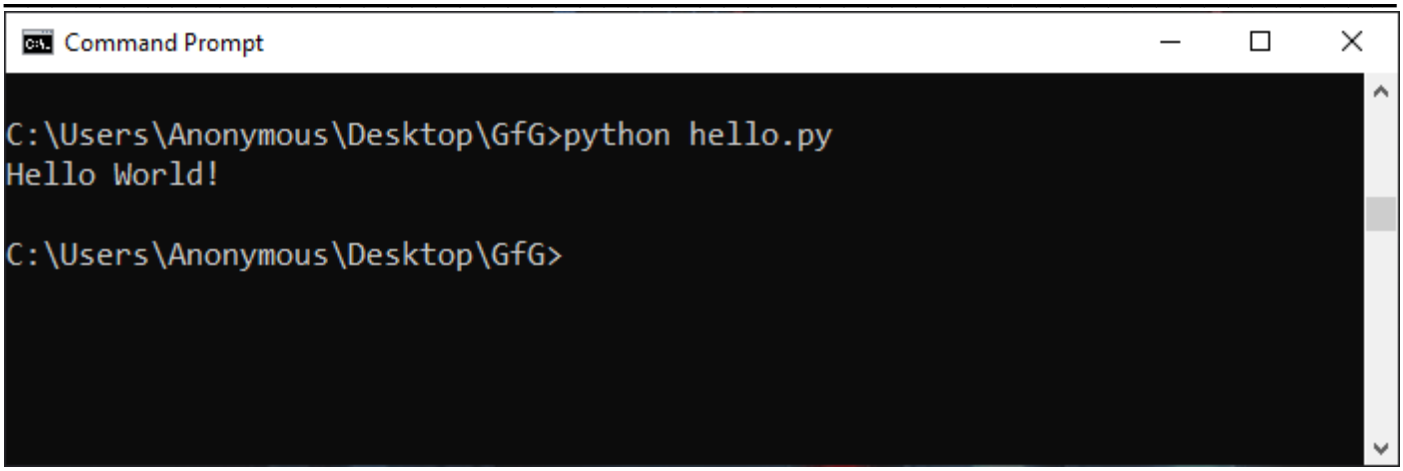
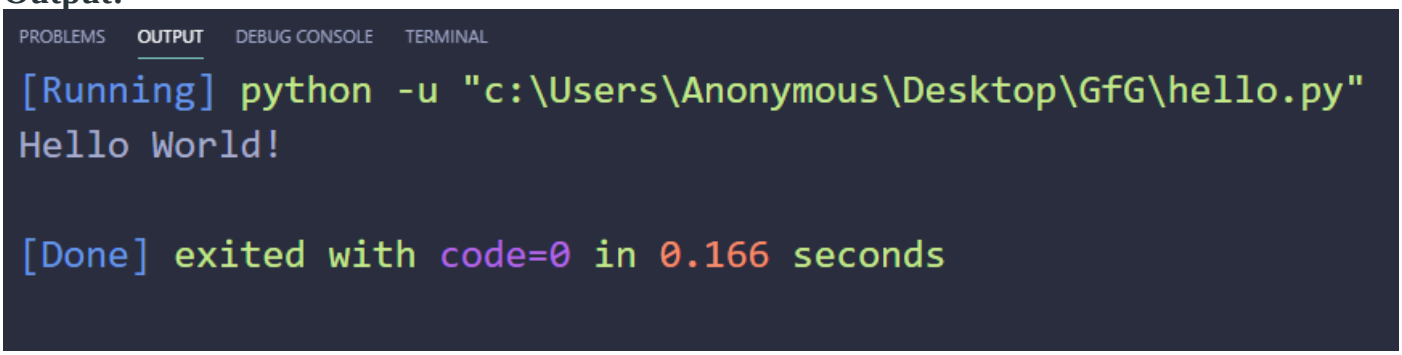


3. **Text Editor (VS Code)**
   To run Python script on a text editor like VS Code (Visual Studio Code) then you will have to do the following:

   - Go to the extension section or press 'Ctrl+Shift+X' on windows, then search and install the extension named 'Python' and 'Code Runner'. Restart your vs code after that.
   - Now, create a new file with the name '**hello.py**' and write the below code in it:
   - print('Hello World!')
   - Then, right-click anywhere in the text area and select the option that says 'Run Code' or press 'Ctrl+Alt+N' to run the code.

Output:



Please follow the link for this concept on the topic Python.

a) https://www.w3schools.com/python/

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b) https://www.w3schools.com/python/python_getstarted.asp

==========End of the module==========