Programming Fundamentals using Python
Installations

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Introduction

Python is a general-purpose interpreted, interactive, object-oriented, and high-level programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License (GPL).

Python is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. It uses English keywords frequently where as other languages use punctuation, and it has fewer syntactical constructions than other languages.

- **Python is Interpreted** Python is processed at runtime by the interpreter. You do not need to compile your program before executing it. This is similar to PERL and PHP.

- **Python is Interactive** You can actually sit at a Python prompt and interact with the interpreter directly to write your programs.

- **Python is Object-Oriented** Python supports Object-Oriented style or technique of programming that encapsulates code within objects.

  Python is a Beginner's Language Python is a great language for the beginner-level programmers and supports the development of a wide range of applications from simple text processing to WWW browsers to games.
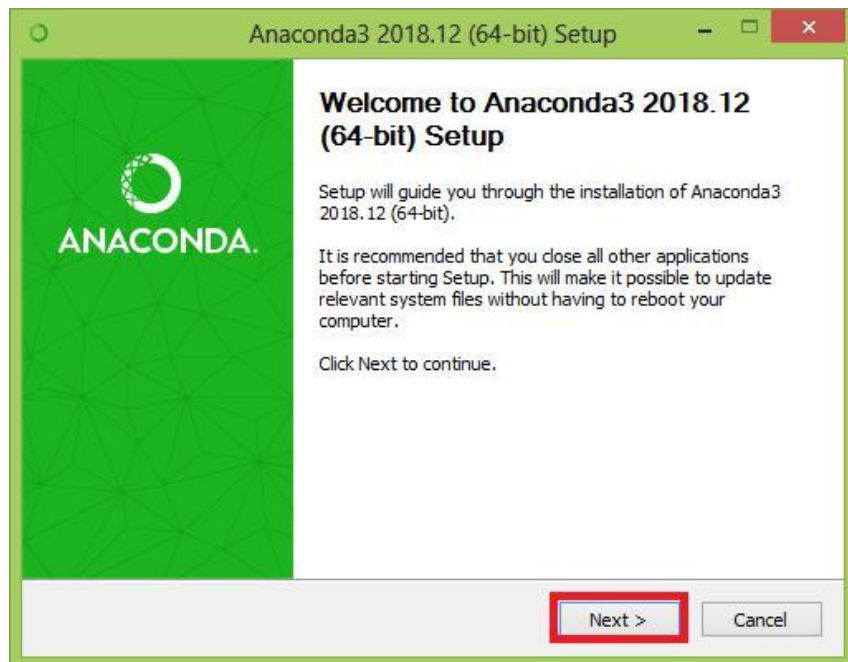
Python Installation using Anaconda Navigator

1. Write Anaconda navigator in the google search and click on the link
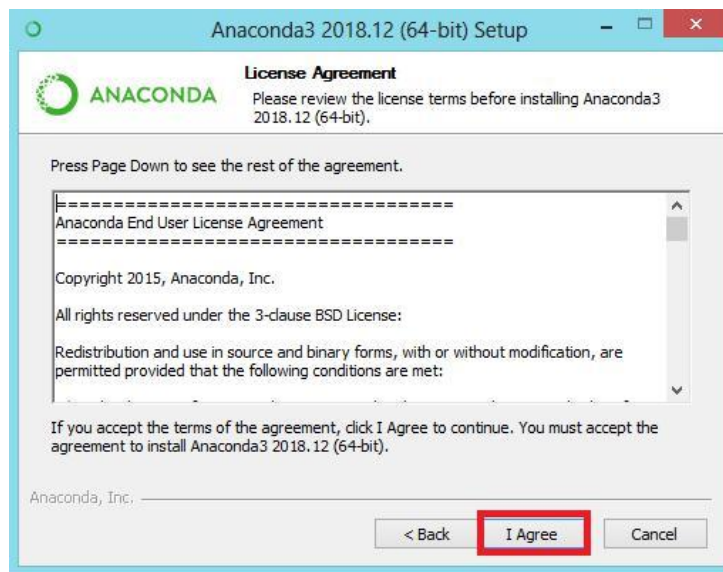   https://www.anaconda.com/ distribution/ as shown in Fig 1
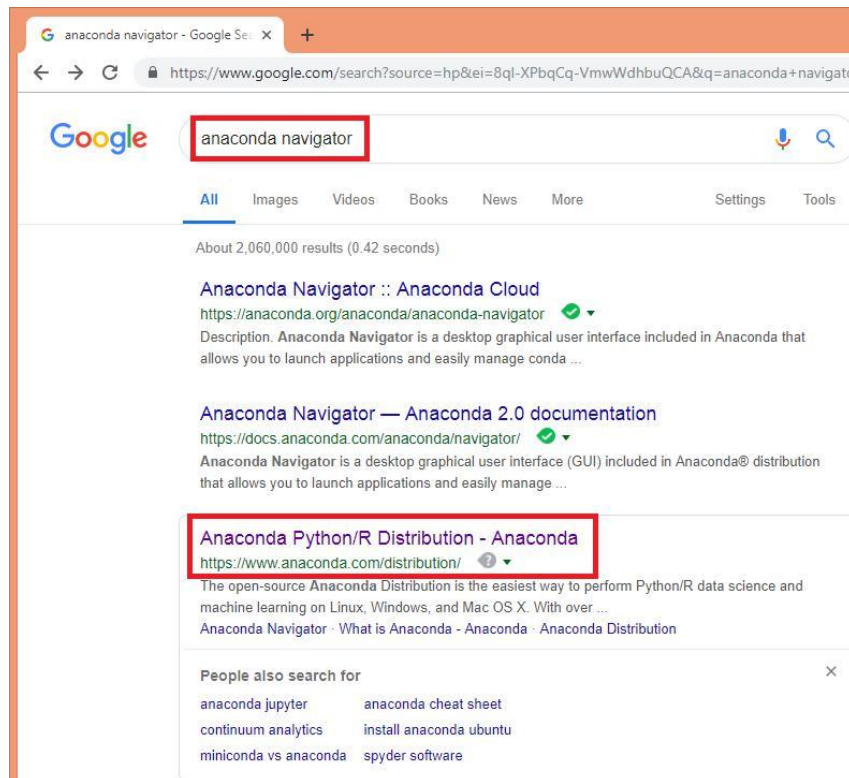
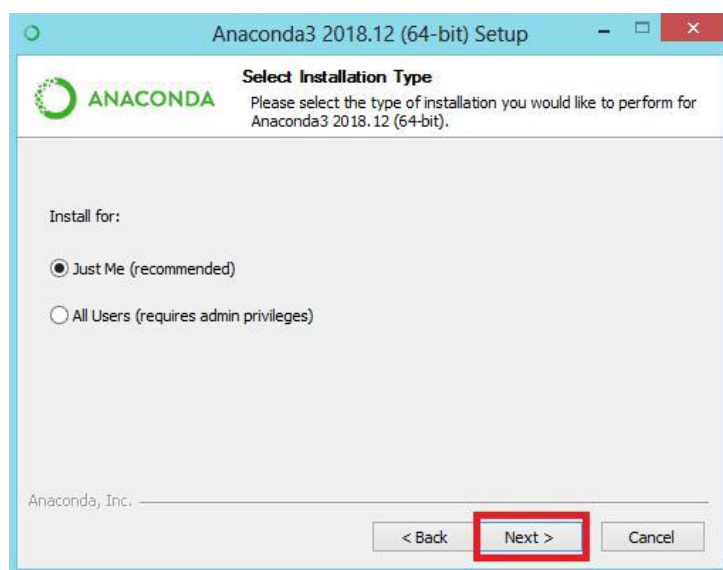2. Choose the corresponding platform and click on the download button as shown in Fig 2
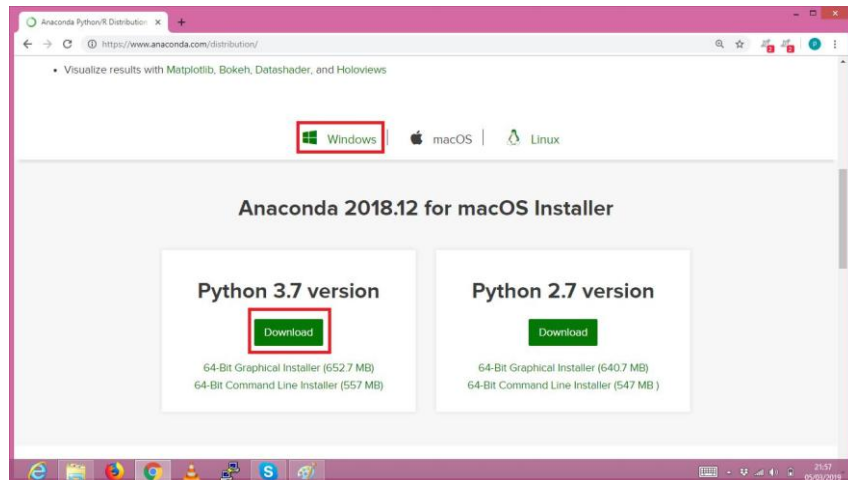
3. Open the downloaded .exe file and click on the next button as shown in the Fig 3
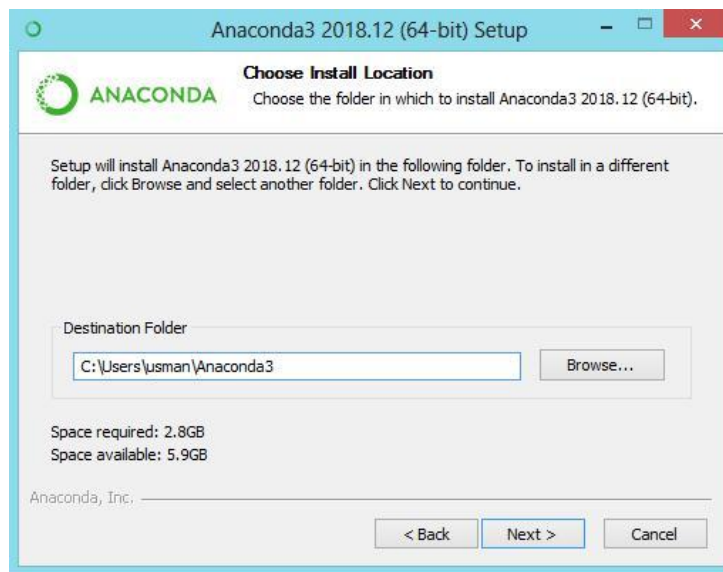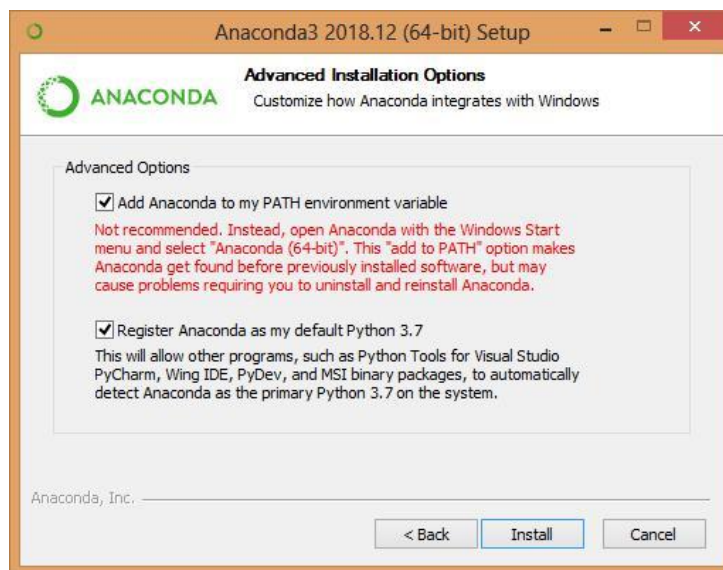
4. Click on the "I Agree" button

5. Choose from the "Just me" or "all users" option as desired and then click on the "Next" button
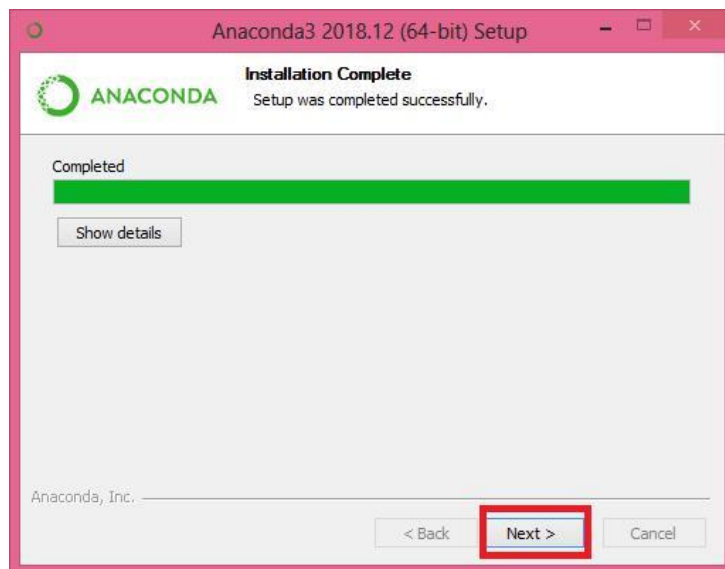
6. Provide the desired installation path and click on the next button
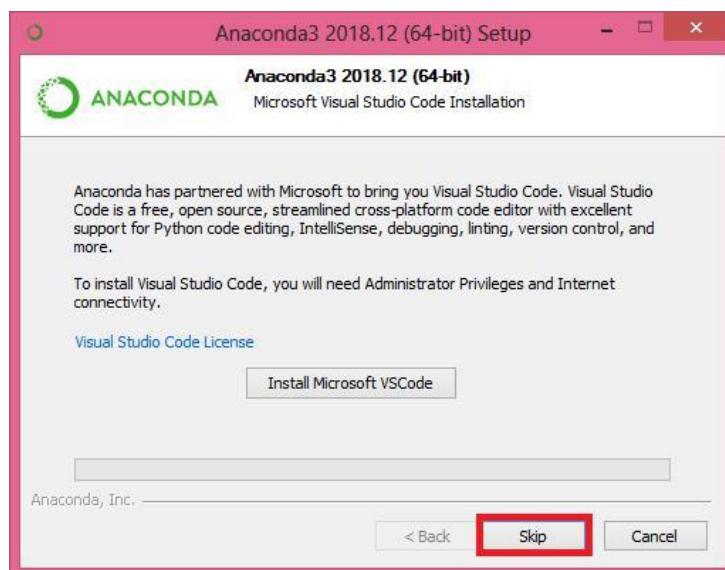

7. Check or tick-mark both the boxes and click on the install button
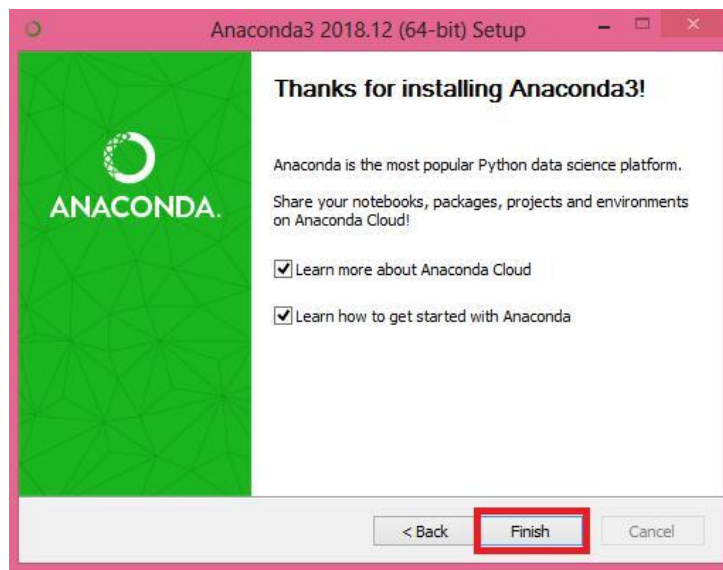
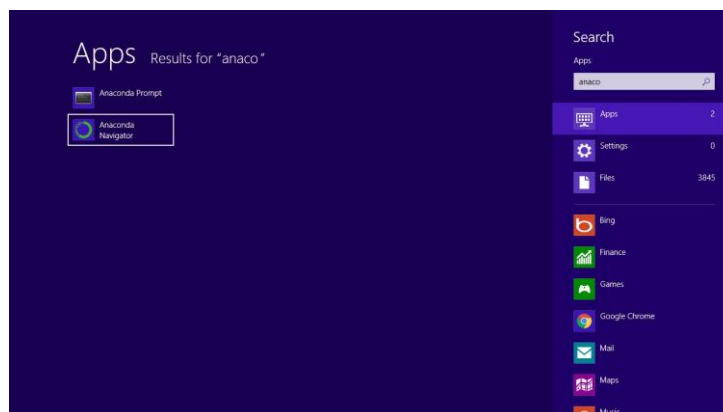8. Once the installation is completed then click on the next button

9. Click on the "Skip" button when asked for the installation of "Microsoft VScode"
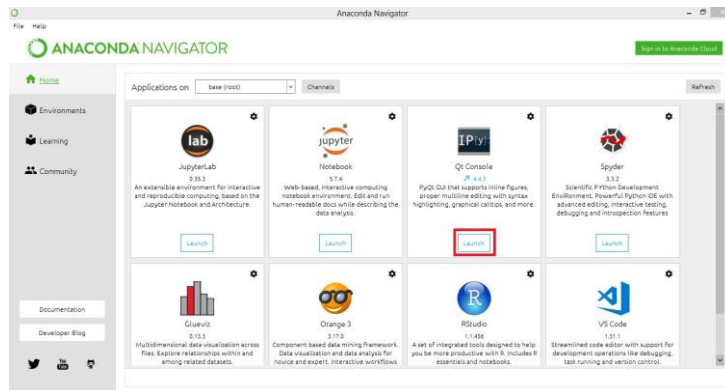
10. Click on the finish button

11. Press the windows button from your keyboard (for windows 8 and above) and write the "Anaconda Navigator" in the search bar
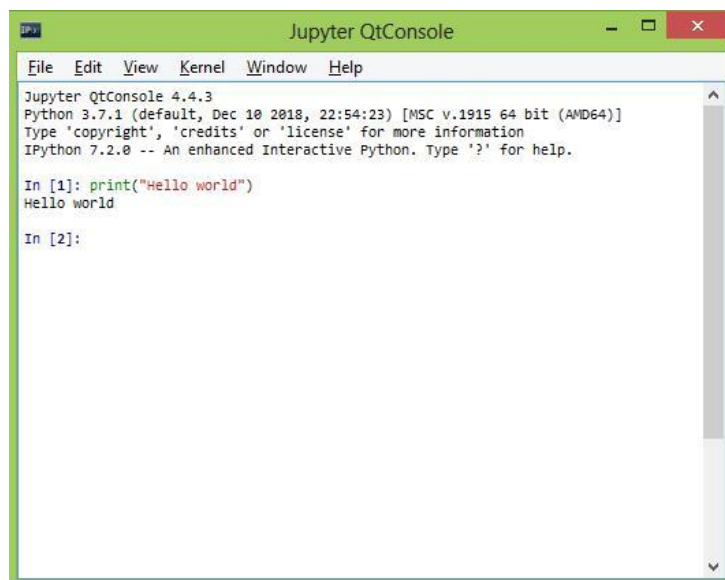
Ways to interact with Python Interpreter

1. **Console:** Click on the QT console launch button in the "Anaconda Navigation" window
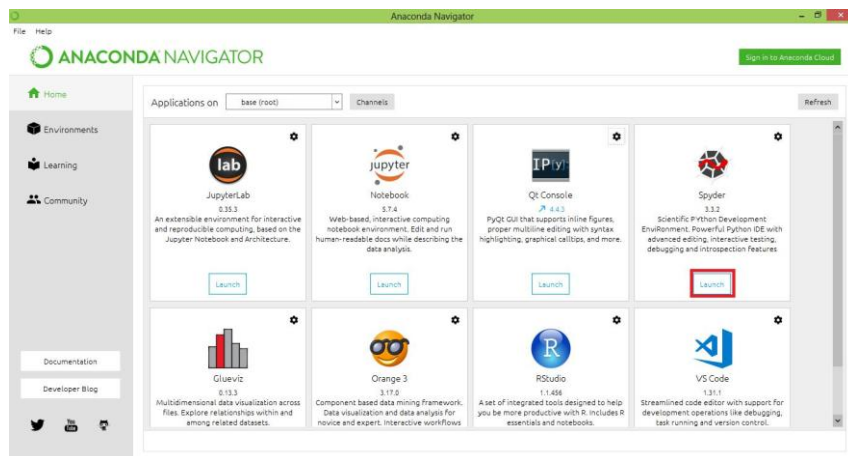

In the console window write print("hello world") and press enter. As soon as you press the Enter button, the python interpret executes the corresponding statement immediately and shows it output on the same console screen as shown in the Fig 1
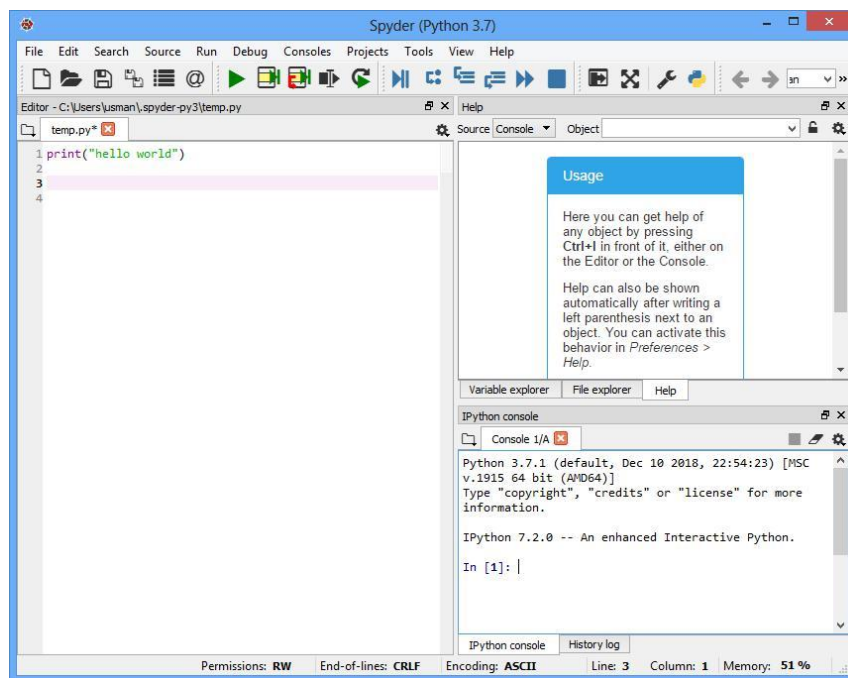
2. **Spider IDE:** Click on the lunch button under the Spider IDE as shown in the Fig 2

Write print("Hello world") and click on the run button or press F5 button to the output of the whole program all at once as shown in the Fig 2

3. Jupyter Notebook: Click on the launch button under the Jupyter Notebook at shown in the Fig 3 A new tab in the default browser (Google Chrome recommended) will be opened as shown in the
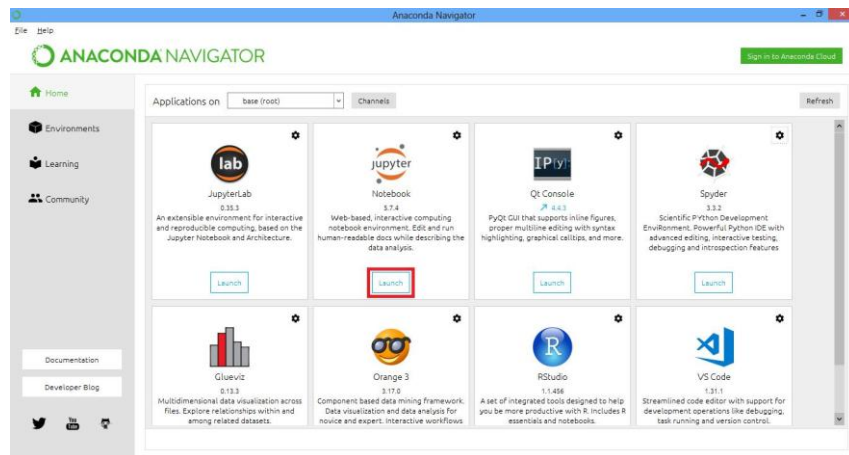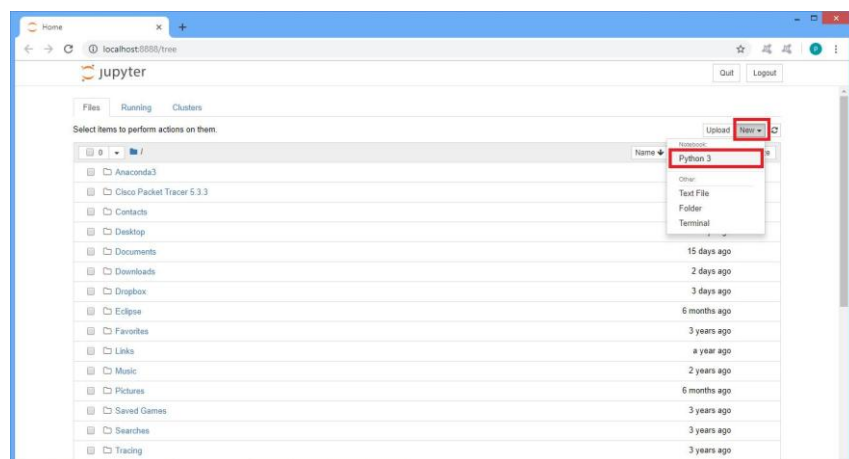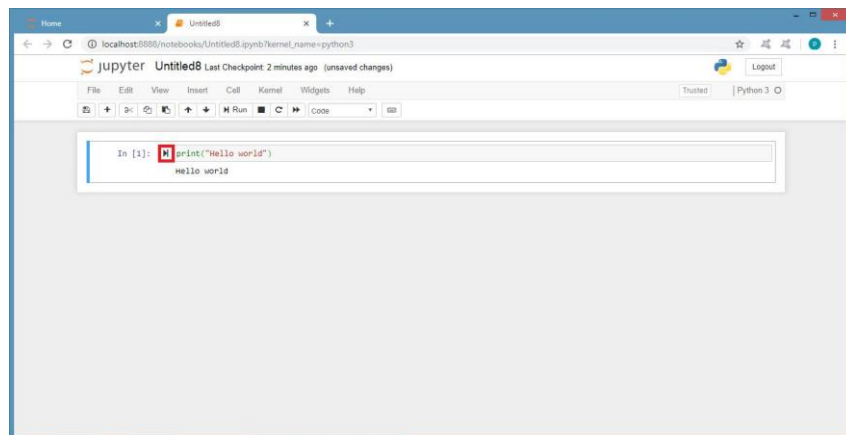

Fig 3. Click on the "New" drop menu and click on "Python 3" label. A new tab will be opened in the

browser. Write printf("Hello world") in the cell box and click on the run button on just right of the cell box as shown in Fig 3. An out of the program code in the cell box will be shown just under the cell box.

While keeping the cursor in the cell box, press shift+enter at the same time and a new cell box will be appeared on in the same window. The contents to be written in the new cell box will be linked with the contents of the previous cell box as they are part of the same program.
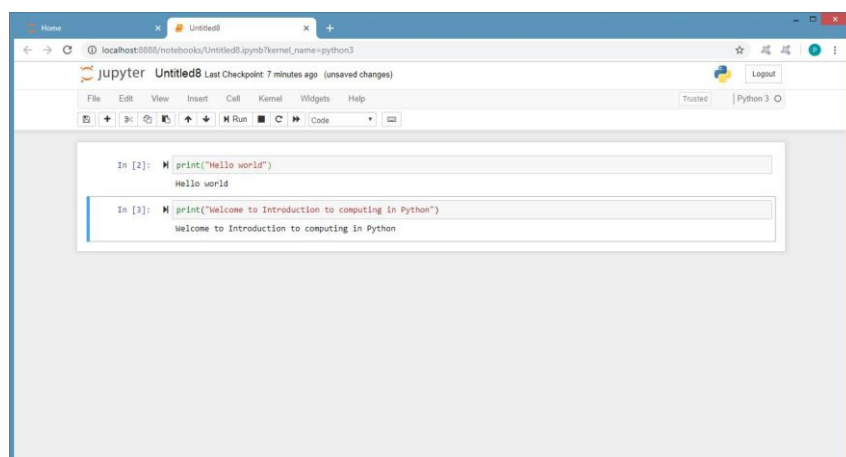
For saving your work in the Jupyter Notebook, click on the File menu and then click on the "Save as" label. Provide the name you want to save you work with but with any extension and then click on the save button.
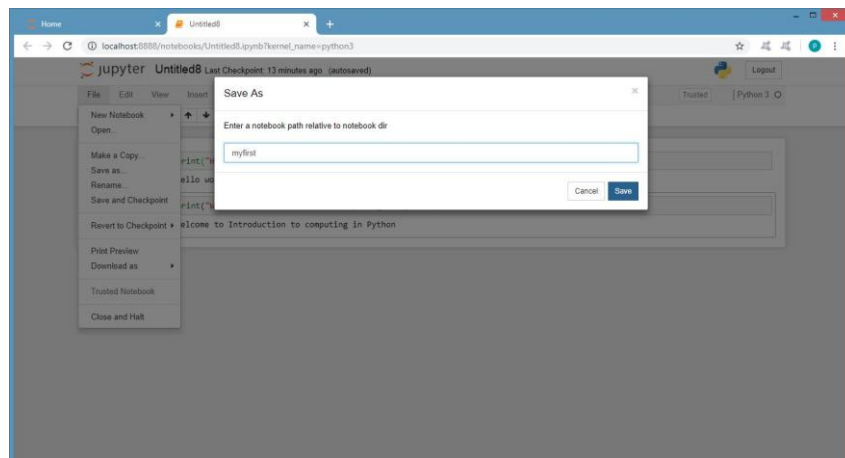
In order to open your saved work, open the Jupyter Notebbook and look for the file you have pre-viously saved as shown in Fig 3 double click on it and you will be directed to the program code in Python that you have written last time when saved.