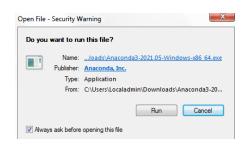
## Installing Anaconda Navigator in windows machine

- 1. Browse the site <a href="https://docs.anaconda.com/anaconda/install/windows/">https://docs.anaconda.com/anaconda/install/windows/</a>
- 2. Click on Download the Anaconda installer
  - a. Check your OS bit version: Start button->Settings->System->About: Device specification System Type
  - b. Click on (your\_OS\_bit\_version)-Bit Graphical Installer, e.g., 64-Bit Graphical Installer, and click on save (will take a while for downloading)
- 3. Double click the installer to launch and click on Run for installation



4. Click on Next -> I Agree -> Next ->Next->Install (for default settings)



- 5. Click Next->Next->Finish to complete the installation (registration is not essential for operation).
- 6. Open Anaconda Navigator: It will pop up an icon in the status bar.
- 7. Click on the icon and click on the launch button of Jupyter Notebook.

ft Home	Applications on base (reet)	<ul> <li>Channels</li> </ul>			Pe
Environments	•	\$	•	*	•
Learning	0	<b>eL</b>	٠ö	lab	Jupyter
Community	CMD.exe Prompt	Datalore	IBM Watson Studio Cloud	JupyterLab	Notebook
	0.1.1 Run a cmd.exe terminal with your current environment from Navigator activated	Online Data Analysis Tool with smart coding assistance by JetSraina. Edit and run your Python netebooks in the cloud and share them with your team.	IBM Watsen Studio Cloud provides you the tools to analyze and visualize data, to cleanse and shape data, to create and train machine learning models. Prepare data and build models, using poor source data	3.0.14 An extensible and reproducible corrective and reproducible correcting, based on the Jupyter Notebook and Architecture.	6.3.0 Web-based, interactive computing notebook environment. Bits and run human-readable docs while describing the data analysis.
	Leunch	Launch	science tools or visual modeling. Launch	Leunch	Launch
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ANACONDA. NUCLEUS	$\circ$	IP(y):	*	d h	00
Join Now	Powershell Prompt	Qt Console	Spyder	Glueviz	Orange 3
Discover premium dete science content	0.0.1 Run a Powershell terminal with your current environment from Nevigator ectivated	5.0.3 PyQt GUI that supports inline Figures, proper multiline editing with syntax highlighting, graphical calitips, and more.	7 423 Scientific Pitten Development Drvillorment, Powerful Python DD with advenced editing, interactive testing, debugging and introspection features	1.00 Multidimensional data visualization across files. Explore relationships within and among related datasets.	3.260 Component based data mining framework. Data visualization and data analysis for novice and expert. Interactive workflows with a large toolbox.
Documentation					
Aneconde Blog	Launch	Launch	Leunch	Install	Install

- 8. It will open the browser and show your files and directory (folders) from C:\Users\Your\_user\_account.
- For the time being, create a working directory at C:\Users\Your\_user\_account\[yourWorkingDirectory]

0 localhost:8888/tree	☺ ☆
💭 jupyter	Quit Logout
Files Running Clusters	
Select items to perform actions on them.	Upload New - 2
🔲 0 💌 🖿 /	Name 🗣 Last Modified File size
🛅 🗅 anaconda3	17 minutes ago
Contacts	a year ago
E Desktop	a month ago
Co Documents	17 minutes ago
E Downloads	29 minutes ago
E Pavorites	a year ago
Links	a year ago

Click on your working directory (in my case, it is 'workPlace'). It will take you to a new window.
 Click on the New dropdown button (on the right side) and click on the Python 3.

jupyter		Quit Logout
Files Running Clusters		
elect items to perform actions on them.		Upload New - 2
🗐 0 👻 🖿 / WorkPlace	Name 🗸	Notebook Python 3
С		. ,
The notebook list is empty		Other: Text File
		Folder
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		Terminal

12. It will open a new page in the browser with the Untitled – Jupyter Notebook page. To change the name, click on the Untitled label (on the top left) and rename your file.

	Anaconda   Get Started	× O Anaconda   Installation Success ×	Anaconda Nucleus	× C WorkPlace/	× 🤗 Untitle	ed - Jupyter Notebook 🗙 🕂
e Ede Voew inser * Ex @ 16 * In f 3: Rename Notobook ame Enter a new notebook name In f 3:	0 localhost:8888/no	tebooks/WorkPlace/Untitled.ipynb?kerne	l_name=python3			… ⊠ ☆
	File Edit View In	Enter a new notebook name:	saved changes)	Canc	_	

13. We will use the following buttons/labels most frequently.

💭 jupyter	myFirstWork Last Ch	eckpoint: 9 minutes ago	(autosaved)
File Edit V	View Insert Cell	Kernel Widgets	Help
	▶ Run 5	■ C   Code	
In []: •	2		

- 1. It is your working file
- 2. This section is called a cell, where you will write your program code or report (if you have selected code in the dropdown button (label 7), it will treat the text you have written in this cell as program code; otherwise, your text will be treated as other than a program code).
- 3. Clicking on '+' will create another cell to write a program code or some information, such as a comment.
- 4. This button deletes the current active cell.
- 5. This button runs the program code (or formatted comment) in the current active cell.
- 6. A click on this button interrupts the kernel (i.e., current running program code in a cell).
- 7. The dropdown button selects whether the text in the active cell is treated as program code or formatted comment.
- 14. The figure below shows some simple program codes in different cells.

JUPYTET myFirstWork Last Checkpoint: 40 minutes ago (unsaved changes)
File Edit View Insert Cell Kernel Widgets Help
E + ∞ 4 E + ↓ ► Run ■ C → Code
<pre>In [1]: print("Hello World!")</pre>
Hello World!
In [2]: 7+5
Out[2]: 12
<pre>In [3]: import numpy as np x = np.random.rand(1)</pre>
In [4]: x
Out[4]: array([0.95841561])
In [5]: print(x)
[0.95841561]
In []:

Some basic matrix operations in python using NumPy package

```
# This is comment
     import numpy as np # use numpy package
     # Two matrices are initialized by value
     x = np.array([[4, 6], [8, 10]])
     y = np.array([[2, 3], [4, 5]])
     print("Two Matrices x and y")
     print(x)
    print(y)
     Two Matrices x and y
     [[ 4 6]
     [ 8 10]]
     [[2 3]
     [4 5]]
#1. add()/'+' is used to add two matrices
     print ("Elementwise addition of x and y: ")
     print (np.add(x, y))
     print (x+y)
     Elementwise addition of x and y:
     [[ 6 9]
     [12 15]]
     [[ 6 9]
     [12 15]]
# 2. subtract()/'-' is used to subtract two matrices
     print ("Elementwise subtraction of x and y: ")
     print (np.subtract(x,y))
    print (x-y)
     Elementwise subtraction of x and y:
     [[2 3]
     [4 5]]
     [[2 3]
     [4 5]]
#3. divide()/'/' is used to divide matrices
     print ("Elementwise matrix division: ")
     print (np.divide(x,y))
    print (x/y)
```

```
Elementwise matrix division:
     [[2. 2.]
     [2. 2.]]
     [[2. 2.]
     [2. 2.]]
#4. multiply()/'*' is used to elementwise multiply two matrices
    print ("Elementwise multiplication of two matrices (x and
    V): ")
    print (np.multiply(x,y))
    print (x*y)
    Elementwise multiplication of two matrices (x and y):
    [[ 8 18]
     [32 50]]
     [[ 8 18]
     [32 50]]
#5. Matrix multiplication
    print ("The product of two matrices (x and y): ")
    print (np.dot(x,y))
    The product of two matrices (x and y):
     [[32 42]
     [56 74]]
#5. sqrt() computes the elementwise square root of the matrices
    print ("Elementwise square root of x: ")
    print (np.sqrt(x))
    Elementwise square root of x:
                 2.449489741
     [[2.
     [2.82842712 3.16227766]]
#6. sum() computes the sum of all the elements of a matrix/array
    print ("The summation of elements of the matrix y: ")
    print (np.sum(y))
    The summation of elements of the matrix y:
    14
#7. sum(y,axis=0) computes the column wise sum of the matrix
    print ("The column wise summation of matrix y: ")
```

print (np.sum(y,axis=0))

```
The column wise summation of matrix y:
     [6 8]
#8. sum(y,axis=1) computes the row wise sum of the matrix
     print ("The row wise summation of matrix y: ")
    print (np.sum(y,axis=1))
     The row wise summation of matrix y:
     [5 9]
#9. transpose()/'T' computes the transpose the matrix
    print ("Transpose of matrix x: ")
     print(np.transpose(x))
    print (x.T)
     Transpose of matrix x:
     [[ 4 8]
     [ 6 10]]
     [[ 4 8]
     [ 6 10]]
```