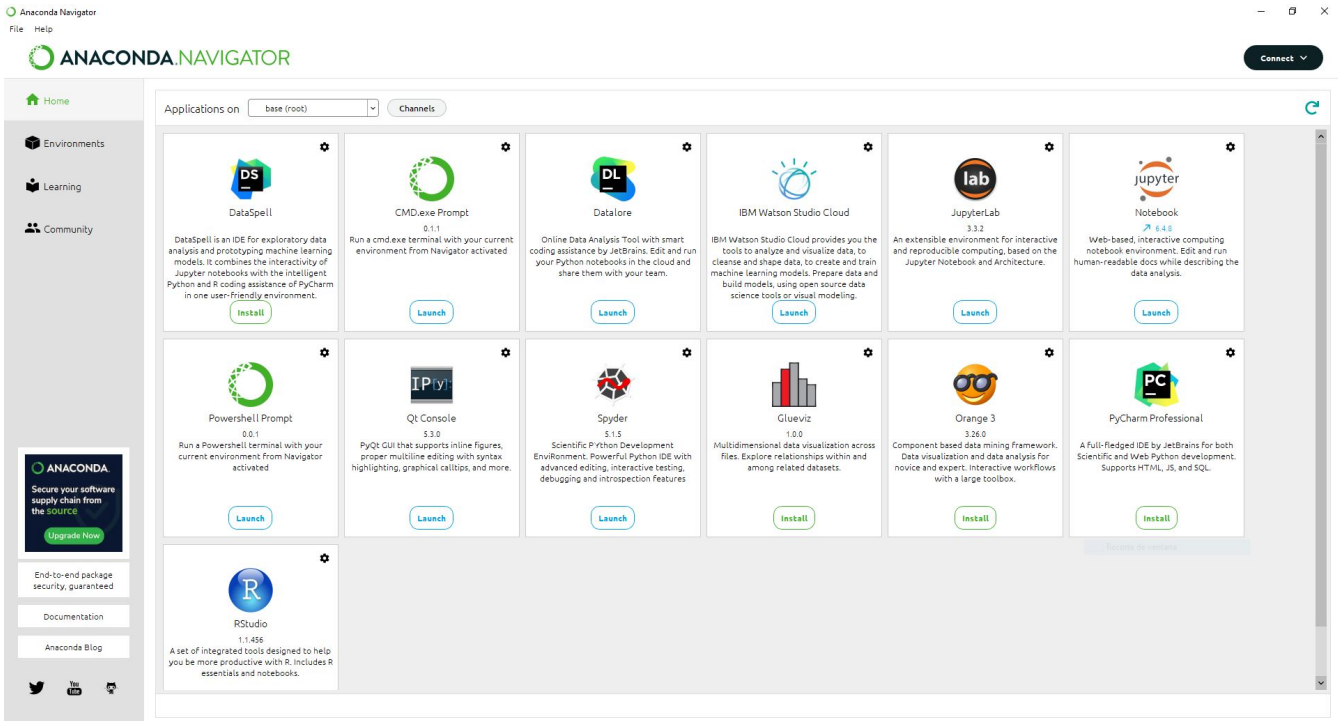# Exercises – Data Science Sprint 01 – S01 T01

Jupyter Notebook & Markdown

Level 1

Level 1 - Exercise 1

- Installation of Anaconda with Python 3 and Jupyter Notebook

Level 1 - Exercise 2

- Using **Jupyter Notebook** and **Markdown**

Variables Creation

```python
In [7]:  # In order to prepare a meeting for our new project whe need to declare the following va
         peopleAttending = 58    # integer
         costPerson = 15.43      # float
         costRoomMeeting = 600   # integer
         nameOrganizers = ("Jon", "Mary", "Philippe","Andrew")   # list
         sunnyDay = True         # boolean
         wellcomeText ="New Project, Fasten your SeatBelts"       # string
         # dictionaty
         organizationChapters = {1:"Foundations", 2:"Team", 3:"Project definitions", 4:"In depth"
```

Mathematical Operations

```python
In [8]:  print("Total Organizers: ", len(nameOrganizers))
         print("Cost per person:", costRoomMeeting/peopleAttending + costPerson)
```

```python
total = peopleAttending + 1        # Add 1 person
print(total)

total = peopleAttending - 4        # Subtract 5 people
print (total)

groups = peopleAttending / 5       # Division5 people group
print (groups)

remainingFromGroups = (peopleAttending % 5)      # Modulus
print(remainingFromGroups)

pkg = 1
for i in range(3,8):
    print (i, pkg)
    pkg += 3

eat = True
sunny = True
if eat & sunny:
    sleep = True
    print ("Sleeping")
else:
    working = True
    print ("working")
```

```
Total Organizers:  4
Cost per person: 25.774827586206897
59
54
11.6
3
3 1
4 4
5 7
6 10
7 13
Sleeping
```

Casting

In [9]:
```python
x = int(1)              # Integer
print (x)
y = float (x)           # Casting Integer to Float
print (y)

character = "5"
print (character)       # Text character '5'
z = float(character)    # Casting character to float
print (z)
```

```
1
1.0
5
5.0
```

String Techniques

In [10]:
```python
wellcomeText ="New Project, Fasten your SeatBelts"      # string
print(wellcomeText.lower())                             # using lower method

print (wellcomeText.replace('New', 'Old'))              # using replace method

tot = len (wellcomeText)        # Use e function to calculate the legth of a string
tot_a = 0
```

```
    for i in wellcomeText:          # Counting Charaters
        if (i) == 'a':
            tot_a += 1
    print (tot_a)

    print (wellcomeText[13:19])      #Slicing Sttrings

    one = 'John'
    two = 'Denver'
    three = one + ' ' + two          # Concatenate 2 strings
    three
```

```
new project, fasten your seatbelts
Old Project, Fasten your SeatBelts
2
Fasten
'John Denver'
```

'John Denver'

Booleans

```
maxPeople = 100
print (peopleAttending > maxPeople)

var = 300
print(isinstance(x, int))   # Checking if an object is integer or not

bool(False or True)          # Test logic or between False and True
```

```
False
True
True
```

True

Level 1 - Exercise 3

- Advanced use of **Jupyter Notebook**

Data Science Roles:

- Data Analyst
- Data Engineers
- Database Administrator
- Machine Learning Engineer
- Data Scientist
- Data Architect
- Statistician
- Business Analyst

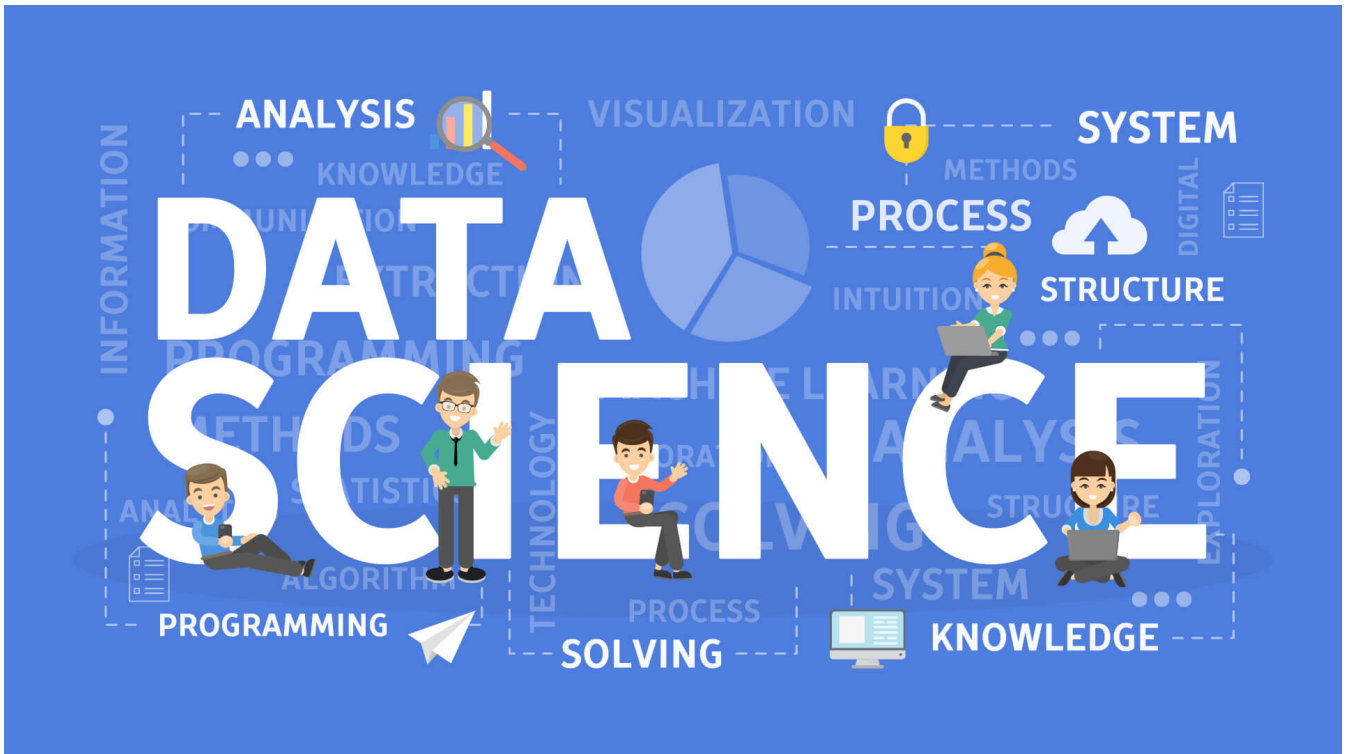| Business applications for Data Science (some examples) |
|---|
| Gain Customer Insights |
| Increase Security |
| Inform Internal Finances |
| Streamline Manufacturing |
| Predict Future Market Trends |

Task List

- [x] Blocking time
- [ ] Choose youtube tutorial on DS
- [x] Finding a Mentor
- [ ] Observe Market Tendencies
- [ ] Adding a reconsidering new tasks

Level 2

Level 2 - Exercise 1

- Exporting Notebook as a **PDF** and as **html**
  - [x] Already in folder

Level 3

Level 3 - Exercice 1

- Intallation of **Nbextensions** on *Jupyter Notebook*
  - [x] Images on folder

```
C:\Windows\system32\cmd.exe                                                                          —    □    ✕

[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_45_0.png
[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_46_0.png
[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_47_0.png
[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_48_0.png
[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_49_0.png
[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_50_0.png
[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_51_0.png
[I 13:33:48 InstallContribNbextensionsApp] Up to date: C:\ProgramData\jupyter\nbextensions\latex_envs\doc\latex_env_doc_files\latex_env_doc_52_0.png
[I 13:33:48 InstallContribNbextensionsApp] - Validating: ok
[I 13:33:48 InstallContribNbextensionsApp] Installing jupyter_contrib_nbextensions items to config in C:\ProgramData\jupyter
Enabling: jupyter_nbextensions_configurator
- Writing config: C:\ProgramData\jupyter
    - Validating...
      jupyter_nbextensions_configurator 0.4.1 ok
Enabling notebook nbextension nbextensions_configurator/config_menu/main...
Enabling tree nbextension nbextensions_configurator/tree_tab/main...
[I 13:33:48 InstallContribNbextensionsApp] Enabling notebook extension contrib_nbextensions_help_item/main...
[I 13:33:48 InstallContribNbextensionsApp]       - Validating: ok
[I 13:33:48 InstallContribNbextensionsApp] - Editing config: C:\ProgramData\jupyter\jupyter_nbconvert_config.json
[I 13:33:48 InstallContribNbextensionsApp] --  Configuring nbconvert template path
[I 13:33:48 InstallContribNbextensionsApp] --  Configuring nbconvert preprocessors
[I 13:33:48 InstallContribNbextensionsApp] - Writing config: C:\ProgramData\jupyter\jupyter_nbconvert_config.json
[I 13:33:48 InstallContribNbextensionsApp] --  Writing updated config file C:\ProgramData\jupyter\jupyter_nbconvert_config.json


(base) C:\Users\rafa>
```

⟳ jupyter   Quit   Logout

Files   Running   Clusters   Nbextensions

Configurable nbextensions   ⟳

☐ disable configuration for nbextensions without explicit compatibility (they may break your notebook environment, but can be useful to show for nbextension development)

filter: by description, section, or tags

☐ (some) LaTeX environments for Jupyter	☐ 2to3 Converter	☐ AddBefore	☐ Autopep8
☐ AutoSaveTime	☐ Autoscroll	☐ Cell Filter	☐ Code Font Size
☐ Code prettify	☐ Codefolding	☐ Codefolding in Editor	☐ CodeMirror mode extensions
☑ Collapsible Headings	☐ Comment/Uncomment Hotkey	☑ contrib_nbextensions_help_item	☐ datestamper
☐ Equation Auto Numbering	☐ ExecuteTime	☐ Execution Dependencies	☐ Exercise
☐ Exercise2	☐ Export Embedded HTML	☐ Freeze	☐ Gist-it
☐ Help panel	☐ Hide Header	☐ Hide input	☐ Hide input all
☐ Highlight selected word	☐ highlighter	☐ Hinterland	☐ Initialization cells
☐ isort formatter	☑ jupyter-js-widgets/extension	☑ jupyterlab-plotly/extension	☐ Keyboard shortcut editor
☐ Launch QTConsole	☐ Limit Output	☐ Live Markdown Preview	☐ Load TeX macros
☐ Move selected cells	☐ Navigation-Hotkeys	☑ Nbextensions dashboard tab	☑ Nbextensions edit menu item
☐ nbTranslate	☐ Notify	☐ Printview	☐ Python Markdown
☐ Rubberband	☐ Ruler	☐ Ruler in Editor	☐ Runtools
☐ Scratchpad	☐ ScrollDown	☐ Select CodeMirror Keymap	☐ SKILL Syntax
☐ Skip-Traceback	☐ Snippets	☐ Snippets Menu	☐ spellchecker
☐ Split Cells Notebook	☐ Table of Contents (2)	☐ table_beautifier	☐ Toggle all line numbers
☐ Tree Filter	☐ Variable Inspector	☐ zenmode	