Introduction to Python & Conditional Statements in python

Day02 Agenda 15-Sept-2020

- Literate Programming
- Jupyter Notebook Environment
- Markdown format for documentation
  - Headings
  - Lists
  - Imgs, Hyperlinks
  - Tables
  - Math
- Python basics
  - I/O
  - Identifiers
  - Data Types
  - Type Conversion
- Operators in Python
  - Arthematic operators
  - Logical Operators
  - Relational operators
  - Membership operators
- Conditional Statements in python
  - if
  - if else
  - if-elif-else

Literate Programming (http://www.literateprogramming.com/knuthweb.pdf)

- Jupyter
- Kaggle
- Colab
- Jupyterlab
- Data lab
- Azure Note books
- NB viewer

Heading1

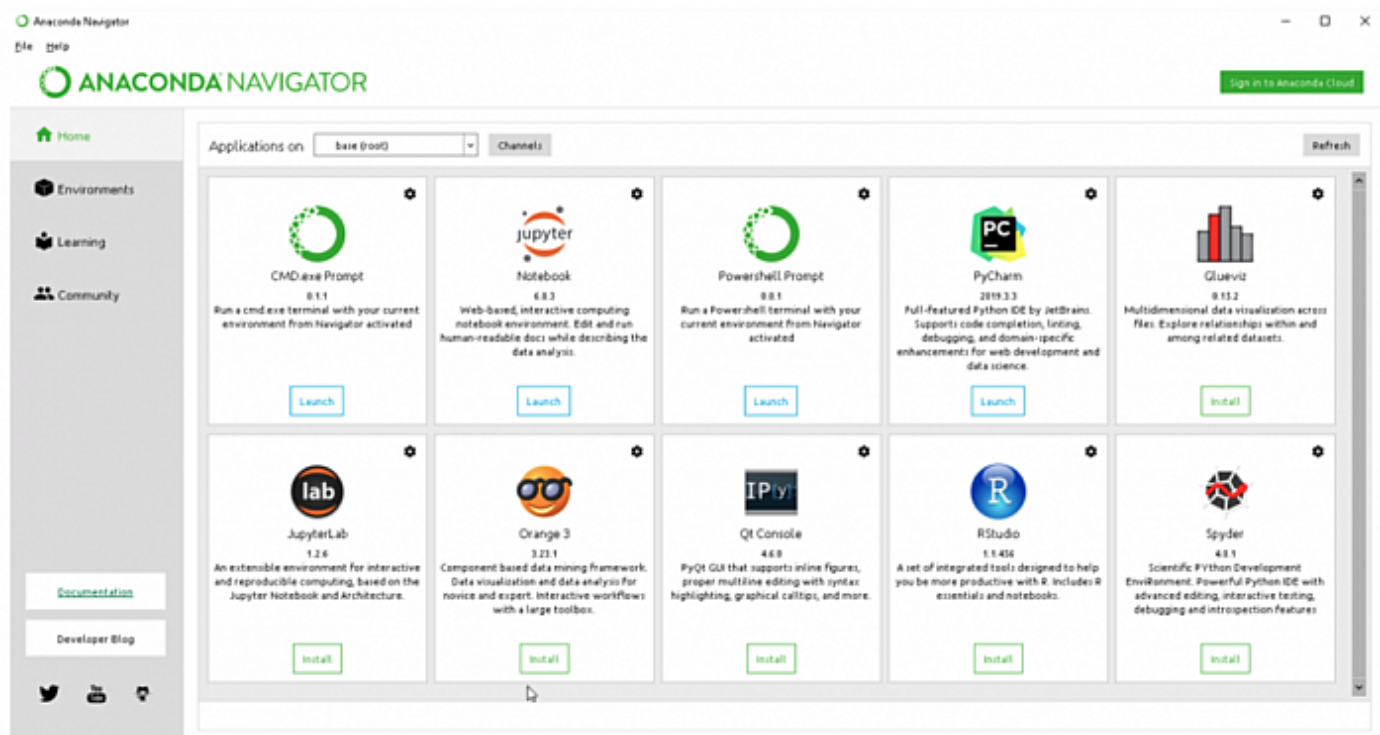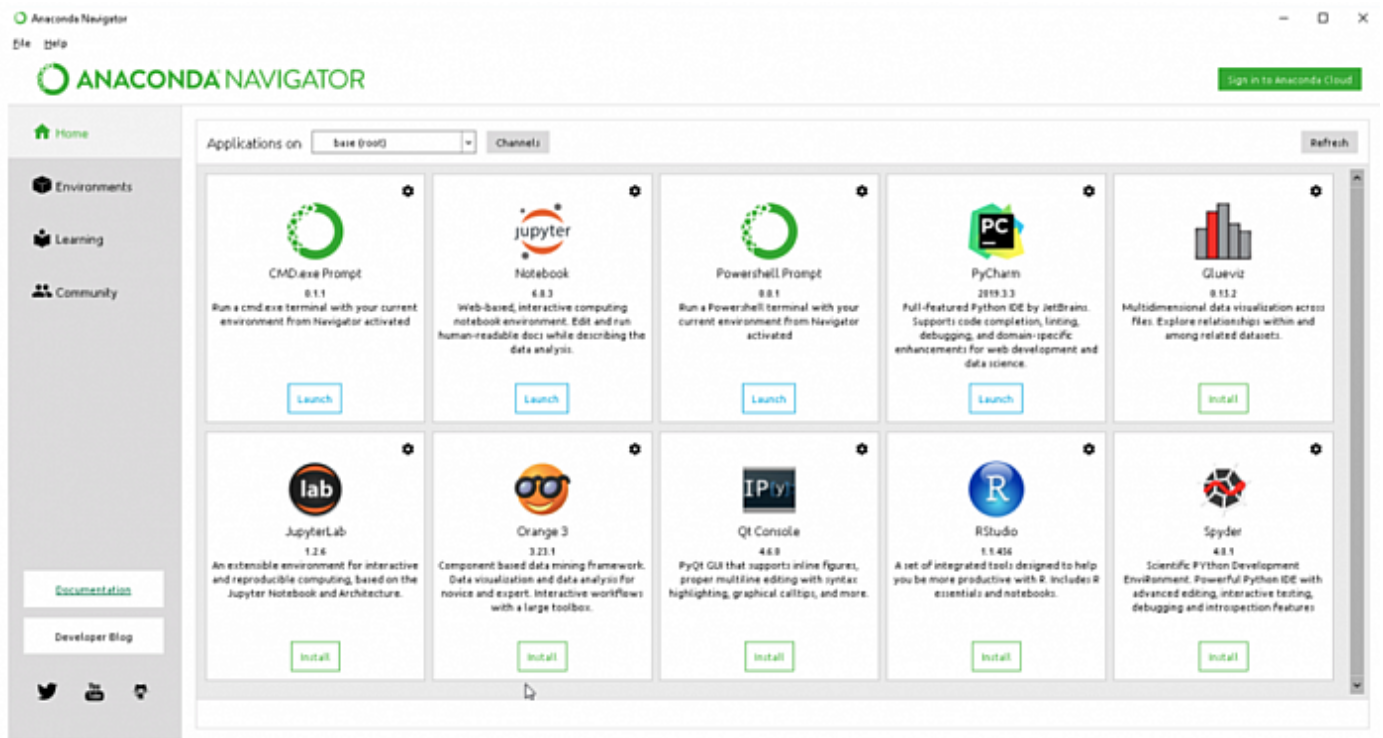## Heading2

Heading3

Heading4

Heading5

Heading6

- Easy to learn
  - Python
    - Programming
- Huge community

1. ML
2. Data Science
   A. Data Mining
      b. Text mining
   B. NLP
3. AI

![img

[linkdesc](Hyperlink)

[Click Here to visit Python Official Website (https://python.org)](https://python.org)

col1	col2
row1	row2
row3	row3

$$(a+b)^2 = a^2 + b^2 + 2ab$$

$$(a+b)^2 = a^2 + b^2 + 2ab$$

- ShiftEnter - Execute the cell
- EscM - code cell to matkdown cell
- EscY - markdown cell to code cell
- EscA - insert the cell above the current cell
- EscB - Insert the cell below the current cell
- DD - Deleting

Python Basics

1. I/O

In [1]:

```python
print("Hello World")
```

Hello World

```
input("Enter any Description")
```

Enter any DescriptionAPSSDC

Out[2]:

'APSSDC'

2. Identifiers

Names given to any variables, classes, functions,....

Rules for identifiers

1. There no space between the identifiers
2. No special characters except _
3. shouldn't starts with numbers but it can start with A-za-Z_
4. identifiers should not be the predifined keywords, functions
5. can be conbinations of A-za-z0-9_

Data Types on python

- int
- float
- Boolean
- Strings
- Lists
- Tuples
- dictionary
- set
- imaginary/complex

Dynamically Allocated

In [3]:

```
a = 5
```

In [6]:

```
print(type(a))
type(a)
```

<class 'int'>

Out[6]:

int

In [7]:

```python
a = 5.5
type(a)
```

Out[7]:

float

In [8]:

```python
b = "ajhsahcbksajbc0"
type(b)
```

Out[8]:

str

In [9]:

```python
data = input("Enter any numbers")
print(data, type(data))
```

```
Enter any numbers1235689
1235689 <class 'str'>
```

Type Conversions

In [10]:

```python
print(type(data))
data = int(data)
print(data, type(data))
```

```
<class 'str'>
1235689 <class 'int'>
```

In [11]:

```python
float(data)
```

Out[11]:

1235689.0

In [12]:

```python
str(data)
```

Out[12]:

```
'1235689'
```

In [13]:

```python
complex(data)
```

Out[13]:

```
(1235689+0j)
```

- int - binary
- int - octal
- int - hexadecimal

In [14]:

```python
## bin, oct, hex

print(bin(5), hex(5), oct(5))

print(int("101", 2), int('A', 16), int('011',8))
```

```
0b101 0x5 0o5
5 10 9
```

In [15]:

```python
ord('A'), chr(65)
```

Out[15]:

```
(65, 'A')
```

Operatiors in python

- Arthematic - +, -, , /, //, %, *
- Logical - and, or, not
- Relational - <, >, >=, <=, ==, !=
- assignment - +=, -=, =, /=, //=, %=, *=
- bitwise - &, |
- membership - in, not in

```
a = 5
b = 10


a+b, a-b, a*b, a/b, a//b, a%b, a**b,
```

Out[17]:

(15, -5, 50, 0.5, 0, 5, 9765625)

In [22]:

```
s = 'APSSDC'

'A' not in s, 'AP' in s
```

Out[22]:

(False, True)

Control Statements

if

```
if conditon:
    statement1
    statement2
    statement3
```

if-elif-else

```
if condition1:
    statenetm1
    statement2
elif condition2:
    statenetm1
    statement2
else:
    statenetm1
    statement2
```

if-else

```
if condition:
    statenetm1
    statement2
else:
    statenetm1
    statement2
```

```python
num = int(input("Enter a Number"))

if num % 2 == 0:
    print(num, "is a Even Number")
else:
    print(num, "is a Not Even Number")
```

```
Enter a Number5
5 is a Not Even Number
```

```python
num = int(input("Enter a Number"))

if num % 2 == 0:
    print(num, "is a Even Number")
else:
    print(num, "is a Not Even Number")
```