Data Science Series

Free Certification Course On Python For Data Science

Session With Sumit

Complete Python Programming Course from Beginner to Advance

Topic: Introduction to Data Science & Python

ANALYTIX LABS
Learn to Evolve

DAY 1

12 SEPTEMBER, 2020
08:00 PM

Welcome to the live session on “Python for Data Science”

Agenda for today:

1. Introduction to Data Science
2. Understanding Python
3. Why we need Python
4. Live code demo
   1. Python Data Structures
   2. Basic commands
   3. Lists
   4. Problem solving on Lists

			Topic
Week-01	Saturday	12/09/2020	Introduction to Data Science and Python
	Sunday	13/09/2020	Python Objects and Data Types
Week-02	Saturday	19/09/2020	Loops and Conditions
	Sunday	20/09/2020	Functions
Week-03	Saturday	26/09/2020	Pattern Printing Problems
	Sunday	27/09/2020	Automation using Python(Pizza order system)
Week-04	Saturday	03/10/2020	Introduction to NumPy
	Sunday	04/10/2020	Introduction to Pandas
Week-05	Saturday	10/10/2020	Data Visualization using Matplotlib and Seaborn
	Sunday	11/10/2020	EDA using Kaggle Data

Quiz

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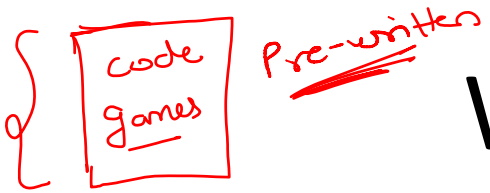
What is Data Science?

Data Science is all about making sense of the data. It can also be defined as extracting meaningful insights and information from the data that is useful for the Business Understanding and Problem Solving. It involves Data understanding, Data Visualization, Machine Learning and Artificial Intelligence.

- **Descriptive** : What has happened?
- **Predictive**: What could happen?
- **Prescriptive** : What should we do?

Data Science Tools?

- Microsoft Excel
- Tableau
- Power BI
- R
- SAS
- SPSS
- Python

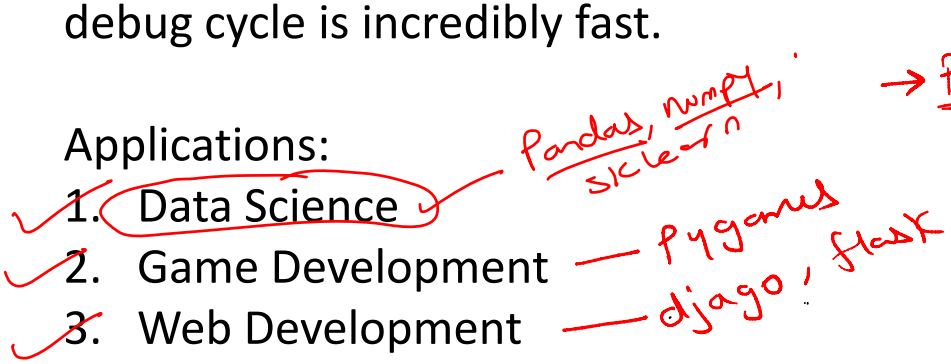


What is Python?

Python is an easy, simple to learn and a very powerful programming language that can be widely used in many applications. Often, programmers fall in love with Python because of the increased productivity it provides. Since there is no compilation step, the edit-test-debug cycle is incredibly fast.

Applications:

1. Data Science
2. Game Development
3. Web Development



What we need to learn Python?

Python has the most number of openings for the year 2020.

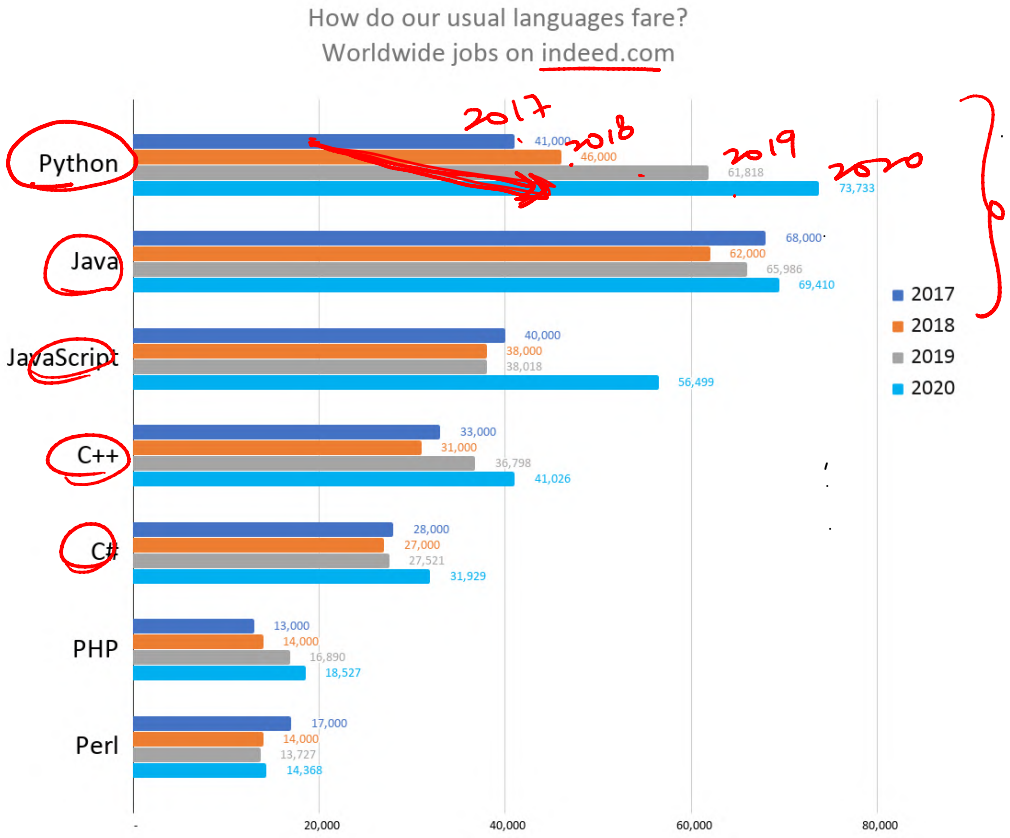


Image Source: Codingdogo

What we need to learn Python?

- Python is easy to understand and follows English like code construct.
- We can run Python on various platforms such as Windows, Mac, Linux etc.
- Python requires less line of code than other languages like Java.
- Python has a huge set of open sourced libraries for various applications.

Java

```java
File dir = new File("."); // get current directory
File fin = new File(
    dir.getCanonicalPath() + File.separator + "Code.txt"
);

FileInputStream fis = new FileInputStream(fin);

// Construct the BufferedReader object
BufferedReader in = new BufferedReader(new InputStreamReader(fis));

String aLine = null;
while ((aLine = in.readLine()) != null) {
    // //Process each line, here we count empty lines
    if (aLine.trim().length() == 0) {}
}

// do not forget to close the buffer reader
in.close();
```

Python

```python
my_file = open("/home/xiaoran/Desktop/test.txt")

print(my_file.read())
my_file.close()
```

Image Source: BellTSoft

How to install Python?

- For Data Science, Anaconda Distribution is the most preferred way of installing Python.
- Let's look at the Demo.

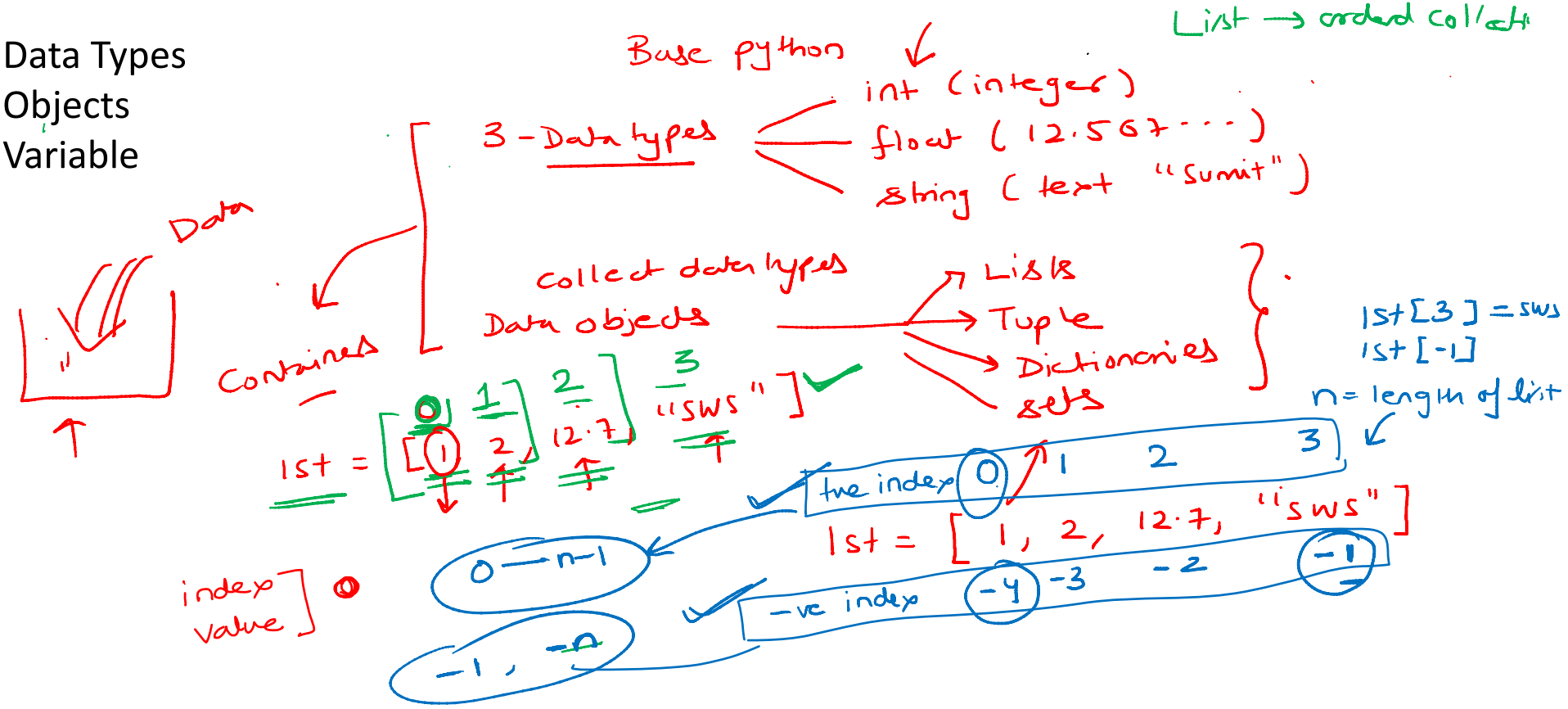
(1) Python + User interface (platform)

(2) Anaconda
- Software
  - (i) Python
  - (ii) Platform (Jupyter notebook)
  - (iii) Packages (Data science)

(3) Google colab
FREE!!

How Python hold data?

- Data Types
- Objects
- Variable



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lst = [12, 12.5, 7, 'sws', True]
0 1 2 3 4
-5 -4 -3 -2 -1

List extraction ⟶ indexing

(Left → Right) (default)

>> lst[0:2]

[12, 12.5]

>> lst[-5:-3]

[12, 12.5]

>> lst[-3:-5] } change the direction

error.

>> lst[-3:-5:-1]

move from Right to left