

**CONSOLE FLARE**



# Training Proposal

**PYTHON FOR DATA  
ANALYTICS**

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CONSOLEFLARE  
A-93, SECTOR 4 NEAR SECTOR 16 METRO STATION,  
NOIDA, UTTAR PRADESH 201301

# PYTHON WITH DATA SCIENCE



## OUR APPROACH

We at Consoleflare aim to help individuals develop their professional potential in the most engaging learning environment. Our vision is to design and deliver a quality training Program to drive the growth of the sector and make India a global hub for skilled professionals of tomorrow.

Our training program in Python with Data Science is designed in way to provide the students with learning experience that makes learning a lot more fun. With this training program we are taking an approach of leveraging content, technology, marketing and services to offer quality education at scale in partnership with corporate & academics to offer a rigorous & industry relevant program.

We plan on delivering the content on our interactive online training platform. We are working towards transforming this online education wave into a tsunami!

Based on our market research and conversation with the industry, we have identified Data Science as one of the sectors with critical supply demand imbalance.

With our training program, we promise to equip you with the perfect mix of business acumen and your students with technical capabilities to help you achieve exactly the same.

## WHAT DO WE OFFER

### Offline & Online Learning

On-the-go learning  
Classes @ your college premises.  
Live Webinar classes on a regular basis.  
Learn anytime-anywhere.



### Invest once for lifetime

Get lifetime access to recorded lectures  
Lifetime access to learning material  
After course support.

### Career Support

Get access to career coaching services and get introduced to the right opportunities to upgrade yourself



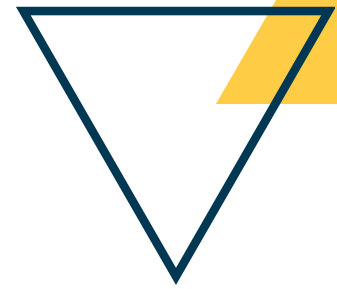
### Mentorship

Academic/non-academic mentorship and unparalleled peer-to-peer learning

### Certification

Industry grade certificate to prove your competency for the career of tomorrow.





## Support and hand-holding

Get answers to every doubt through a network of academic fellows via live sessions and discussion forum



## Industry immersion

Projects and case studies from the leading companies  
Work on real industry problems, through sponsored projects and hackathons.  
Get detailed personalised feedback on every project submission



### Industry Events

Stay on top of the latest developments in the industry and build a network of like-minded professionals



### Career Counseling

Get one on one expert career guidance from a professional counselor

Every month boot-camps will be organised to provide an enhanced learning experience and for career counselling.

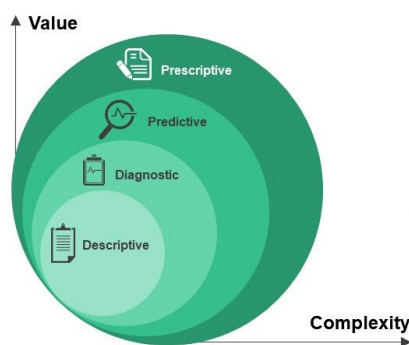
Industrial Expert visits the students to share their experience.

A physical platform that brings together the learners, leaders in industry and academia

# Python For Data Analytics



Descriptive Diagnostic Predictive and Prescriptive Data Types



## What is the data telling you?

**Descriptive:** What's happening in my business?

This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

**Diagnostic:** Why is it happening?

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**Predictive:** What's likely to happen?

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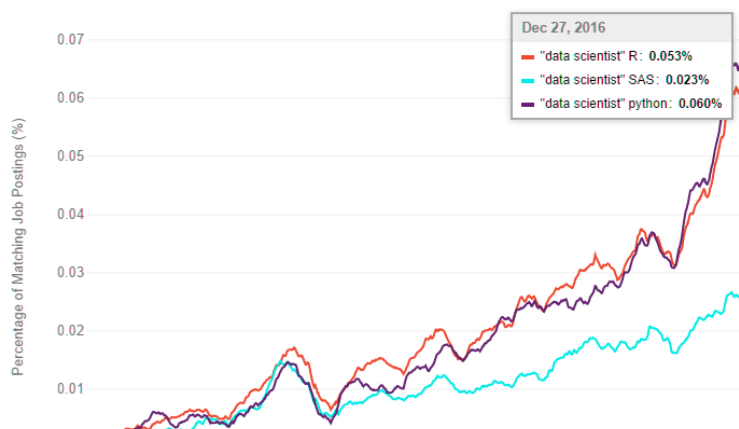
**Prescriptive:** What do I need to do?

This slide is 100% editable. Adapt it to your needs and capture your audience's attention.



"Data Analyst help improve how humans make decisions and how algorithms optimize outcomes" I believe that data science has the power to improve the human condition by helping us investigate phenomena, acquire new knowledge and integrate previous knowledge with new ideas

As per glassdoor.com, the average salary of a data analyst in United States is about \$118000. But payscale.com says it is about \$93000. The job satisfaction among data scientists is high. One of the reasons for this is that they get lucrative medical insurance from their employers. Obviously, data scientists with high experience get high salaries. As a fresher, a data scientist can expect around \$90000 annual salary.



# Breakdown



## COURSE CURRICULUM

### Module 1

#### COURSE INTRODUCTION

- Introduction to the course
- How to access the consoleflare resources
- Session rules and mode of interaction
- Access Gitter community
- History and idea behind python
- Course track overview
- Python 2 versus python 3
- Command line basics

#### ENVIRONMENT SETUP

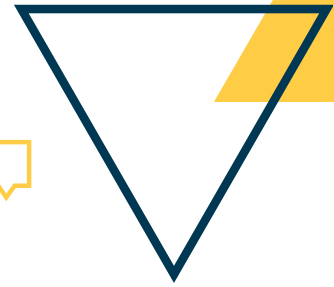
- Installation of python 3.8.2 interpreter
- Getting familiar with environment
- About Integrated Development Environment
- Learn about the pycharm ide and configure it with python 3.8.2
- Test your first program.

#### FUNDAMENTALS OF PROGRAMMING

- Comment
- Variety of operators
- Variables & memory reference
- Literals and their types
- Keywords with operations
- Working with Numbers
- Data types of variables
- Casting in different formats

# Breakdown

## COURSE CURRICULUM



### ▶ WORKING WITH IN-BUILT FUNCTIONS & MODULES

- Introduction to python in-built functions
- Input/output function use cases and tricks
- Functions for type conversion `int()`, `float()`, `str()`
- Generalize functions `len()`, `type()` etc
- Introduction to module importing & accessing
- Play with number using Math module
- Generate random number using Random module
- Operation related to dates and time
- RegEx Module
- Milestone Project 1 | Calculator

## Module 2

### ▶ STRING & STRING FORMATTING

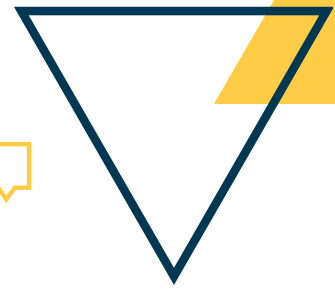
- String Introduction
- String Slicing
- Deleting/Updating from a String
- Escape Characters
- String Methods
- Multiline Strings
- String formatting using `format()`

### ▶ PYTHON DATA STRUCTURES

- Lists Implementation and Its Methods
- Tuple Implementation and Its Methods
- Set Implementation and Its Methods
- Difference between List Tuple and Set
- Dictionary Implementation and Its Methods

# Breakdown

## COURSE CURRICULUM



### CONDITIONAL STATEMENTS



- If Statement
- logical Conditions in if Statements
- Indentation in if Statement
- Else Statements
- elif Statements
- ShortHand Statements
- Nested statements

### LOOP AND ITERATOR



- while Loop
- For Loops
- Looping Different Data Structures
- Break Statement
- Continue Statement
- Else in For Loop
- Nested Loops
- iteration in data structures

### EXCEPTION HANDLING



- What is Exception Handling
- Try Except
- Many Exceptions
- Else in Exception Handling
- Finally keyword
- Raise an exception



# Breakdown



## COURSE CURRICULUM

### ▶ USER DEFINED FUNCTIONS AND MODULES

- Defining a Function
- Calling a Function
- Pass by reference vs value
- Types of arguments
- return Statement
- Global vs. Local variables
- Create a Module
- Use a Module
- Variables in Module

### ▶ FILE HANDLING

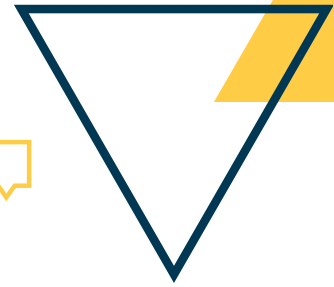
- Introduction To File Handling In Python
- How To Create A File
- Pass by reference vs value
- Append Data To A File
- How To Read A File
- How To Read File Line By Line
- Different Modes Of File Handling In Python And Its Syntax With Examples
- Lambda Expressions, Map, And Filter Functions
- Nested Statements And Scope
- Functions And Methods Assignment
- Milestone Project 2 | Wikipedia Web Crawler

### ▶ EXCEPTION HANDLING

- Sample and population data approaches
- Understanding the quantitative data
- Mean(),median(),mode()
- Standard deviation and standard scores
- Understanding the categorical data
- Operation related categorical data and formatting
- Numeric indexing for analysis

# Breakdown

## COURSE CURRICULUM



### HANDLING JSON FILE FORMAT



- Understanding the json file
- Parse JSON - Convert from JSON to Python
- In-program implementation
- Convert from Python to JSON
- Operations like sorting and formatting

## Module 3

### PYTHON FOR DATA ANALYSIS - NUMPY



- NumPy Arrays
- Array Constructor
- Introduction To Arrays
- NumPy. Range ()
- LINPAC
- Create 2-D Array
- Indexing & Slicing Arrays
- Indexing In 1-D Arrays
- Indexing In 2-D Arrays
- Slicing In 1-D Arrays
- Slicing In 2-D Arrays
- Indexing
- Slicing
- Vectorization & Broadcasting In Arrays
- Scalar Vectorization
- Array Comparison
- New Axis

# Breakdown



## COURSE CURRICULUM

### ▶ PYTHON FOR DATA ANALYSIS – PANDAS

- Pandas And Data Manipulation
- Dropping/Deleting Columns
- Data Frame Indexing
- Series
- Series. Apply ()
- Creating Series
- Applying Method to a Series
- Data Frame & Basic Functionality
- Printing Columns
- DataFrame. Head ()
- Creating DataFrame
- Descriptive Statistical Function
- Data Frame Manipulation
- Mean()
- Correlation
- Indexing & Missing Values
- Loc ()
- Iloc ()
- Grouping & Reshaping

### ▶ IMPORTING DATA FROM DATABASE

- Hosting a database on cloud/local system
- Python sql connectivity
- CRUD operation on database tables through python
- Importing data into dataframe of pandas
- Processing data through pandas methods

# Breakdown



## COURSE CURRICULUM

### ▶ PYTHON FOR DATA VISUALIZATION

- Introduction To Matplotlib
- Installation Of Matplotlib
- Line Plot, Bar Plot
- Histogram
- Scatter
- Intro To Seaborn
- How To Use Seaborn In Plotting
- Categorical Plots
- Distribution Plots
- Matrix Plots
- Grids
- Regression Plots
- Style And Color
- Pandas Built-In Data Visualization
- Data capstone Project
- Indexing & Missing Values
- Data capstone Project

### ▶ BONUS

- How big is BigData?
- How to Store BigData in Commodity Hardwares.
- Current processing frameworks.
- Cluster computing architecture insights
- Maintaining High availability of data
- In-memory computation approach.
- Market domain & its growth.



**Our Students are at**



**Deloitte.**

infoedge

Infosys®



**MAQ**  
Software



**nagarro.**

# Get in touch.

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