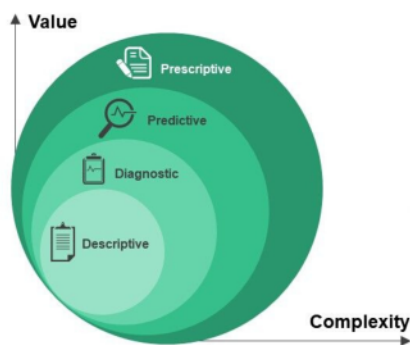


Python For Data Analytics



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?

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

Predictive: What's likely to happen?

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

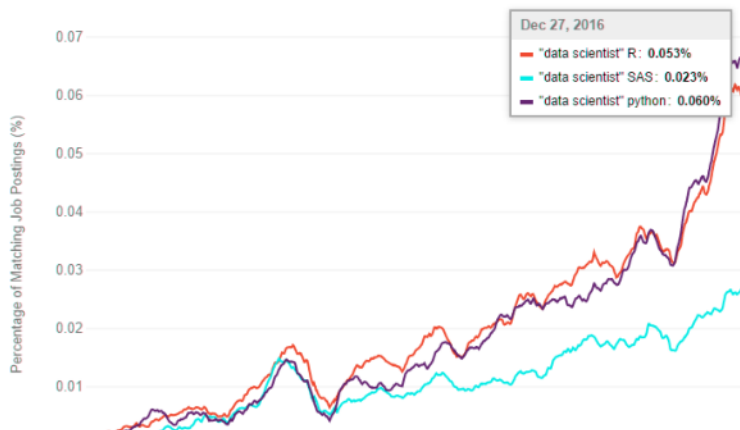
Prescriptive: What do I need to do?

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.

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