



GeeksforGeeks

Data Science

Live



Detailed
Course Syllabus

LECTURE 1 GETTING STARTED WITH PYTHON

- Getting Started with Python
- Operators
- if-else
- For loop
- Functions in Python
- Data Structures
- Lists

LECTURE 2 DATA STRUCTURES AND FILES

- Multi-Dimensional Lists
- Dictionaries in Python
- Operations on Dictionaries
- Reading & Writing on Text-file
- Inventory Management System Overview

LECTURE 3 INVENTORY MANAGEMENT SYSTEM WITH FILES

- IMS with Files
- Adding Product Details
- Updating Inventory
- Add Functionalities
- Generating Sales

LECTURE 4 INVENTORY MANAGEMENT SYSTEM WITH JSON

- IMS with JSON
- Generating Bill
- Updating Inventory
- Saving Record
- Generating Sales file
- Text-file to JSON

LECTURE 5 OS WITH PYTHON

- OS Library
- OS Library Functions
- Bulk Folder Generation with OS
- Bulk File Handling with OS

LECTURE 6 **GETTING STARTED WITH NUMPY**

- Lists vs Numpy
- Getting Started with Numpy
- Array Reshape
- Random Number Generator
- Arithmetic Operations
- Sorting, Slicing, Merging

LECTURE 7 **GETTING STARTED WITH WEB SCRAPPING**

- Mastering Strings
- Fundamental Tags of HTML
- Fetching Webpages
- Text Processing on WebPage
- Introduction to Beautiful Soup

LECTURE 8 **ARTICLE SCRAPPER**

- Scrape Website Data from a Page
- Web Scrapping Project
- Realtime Web scrapper for Article

LECTURE 9 **LINKS SCRAPPER**

- Scrapping Links from Website
- GeeksforGeeks Web Scrapper
- Saving Links on CSV

LECTURE 10 **GETTING STARTED WITH DATA ANALYSIS**

- Introduction to Stats
- Mean, Mode, Median
- Standard Deviation
- Getting Started with Pandas
- Data Analysis - Numeric
- Data Analysis - Categorical
- Data Analysis - Automatic Categorical

LECTURE 11 DATA ANALYSIS WITH PANDAS INBUILT FUNCTIONS

- Null Values Handling
- Data Analysis with Columns
- Data Analysis using Conditions
- Data Analysis using GroupBy
- Summer Olympics Data Analysis Assignment

LECTURE 12 SUMMER OLYMPICS ASSIGNMNT & SOLUTION

- Summer Olympics Data Analysis Solution

LECTURE 13 US CARS MANUFACTURING ANALYSIS

- Data Visualizations
- US Cars Manufacturing Analysis
- Bar Graph
- Pie Chart
- Distribution Plot
- Correlation Matrix
- Heatmap
- Feature Selection

LECTURE 14 INTRODUCTION TO AI

- Introduction to AI
- AI vs ML vs DL vs Data Science
- Features vs Labels
- Subsets of Machine Learning
- Classification vs Regression
- Supervised vs Unsupervised
- Reinforcement Learning
- Train vs Test vs Validation
- Model Evaluation

LECTURE 15 LINEAR REGRESSION

- Linear Regression Algorithm Exp
- Linear Regression Algorithm Implementation

LECTURE 16 **NAIVE BAYES & KNN**

- Naive Bayes Exp
- Naive Bayes Implementation
- KNN Exp
- KNN Implementation

LECTURE 17 **LOGISTIC REGRESSION & K-MEAN**

- Logistic Regression Exp
- Logistic Regression Implementation
- K-Mean Exp
- K-Mean Implementation

LECTURE 18 **MATHS BEHIND NEURAL NETWORKS**

- Introduction to Deep Learning
- Neural Network - Architecture
- Forward Pass
- Backward Pass
- Gradient Descent

LECTURE 19 **BREAST CANCER DETECTION**

- Breast Cancer Detection
- Data Preprocessing
- Train/Test Split
- Model Building
- Model Training
- Model Evaluation
- Model Prediction

LECTURE 20 **BREAST CANCER DETECTION DEPLOYMENT**

- Getting Started with Streamlit
- Breast Cancer Detection Deployment
- Model Deployment using Streamlit