Full Stack Web Development Roadmap

Python | Django | ReactJS

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Technology Stack

Python Core

HTML

CSS

JavaScript

ReactJS

SQL

Bootstrap

jQuery

AJAX

Django

GIT - version control

Integrating Django and React

Deployment - Heroku

Live Projects

Setup Workspace

1. Install Python
2. Create environment
3. Install Django 3

Python Core Basics

01. Variables
02.   Print function
03.   Input from user
04.   Data Types
       a. Numbers
       b. Strings
       c. Lists
       d. Dictionaries
       e. Tuples
       f. Sets
       g. Other Types
05.   Operators
       a. Arithmetic Operators
       b. Relational Operators
       c. Bitwise Operators
       d. Logical Operators
06.   Type conversion

Control Statements

1. If Else
    a. If
    b. Else
    c. Else If
    d. If Else Ternary Expression
2. While Loops
    a. Nested While Loops
    b. Break
    c. Continue
    d. pass
    e. Loop else

Lists

1. List Basics
2. List Operations
3. List Comprehensions
4. List Methods

Strings

1. String Basics
2. String Literals
3. String Operations
4. String Comprehensions
5. String Methods

For Loops

1. Range Functions
2. Nested For Loops
3. Break
4. Continue
5. Pass
6. Loop else

Functions

1. Definition
2. Call
3. Function Arguments
4. Default Arguments
5. Docstrings
6. Scope
7. Special functions Lambda, Map and Filter
8. Recursion
9. Functional Programming and Reference Functions

Dictionaries

1. Dictionaries Basics
2. Operations
3. Comprehensions
4. Dictionaries Methods

Tuples

1. Tuples Basics
2. Tuples Comprehensions
3. Tuple Methods

Sets

1. Sets Basics
2. Sets Operations
3. Union
4. Intersection
5. Difference and Symmetric Difference

Data Structures and Algorithms

1. Analysis of Algorithms
2. Types of analysis
3. Asymptotic Notations
4. Recursion and Backtracking
5. Stack
6. Queue
7. Trees
8. Linked Lists
9. Sorting
10. Searching

File Handling

1. File Basics
2. Opening Files
3. Reading Files
4. Writing Files
5. Editing Files
6. Working with different extensions of file
7. With Statements

Exception Handling

1. Common Exceptions
2. Exception Handling
   a. Try
   b. Except
   c. Try except else
   d. Finally
   e. Raising exceptions
   f. Assertion

Object Oriented Programming

1. Classes
2. Objects
3. Method Calls
4. Inheritance and Its Types
5. Overloading
6. Overriding

7. Data Hiding
8. Operator Overloading

Regular Expression

1. Basic RE functions
2. Patterns
3. Meta Characters
4. Character Classes

Modules & Packages

1. Different types of modules
2. Create your own module
3. Building Packages
4. Build your own python module and deploy it on pip

Magic Methods

1. Dunders
2. Operator Methods

HTML

1. HTML tags
2. Forms
3. Colors
4. Layouts
5. Add styles
6. Classes and IDs

CSS

1. Colors
2. Background
3. Margins, border and padding
4. Text
5. Pseudo Classes
6. Transitions
7. Links
8. Navigation
9. Dropdown

JavaScript

1. Basic Syntax
2. Variables
3. Operators
4. Data Type

5. Functions
6. Conditional Statements
7. For Loop
8. Events
9. Object Functions
10. Object Template Literals
11. Form Validations
12. Projects

ReactJS

1. Understanding Why React
2. JavaScript Revision
3. React Components
4. React State
5. React Hooks
6. API calls using React
7. Projects
   a. Building GitHub Card App
   b. Building Star Match Game

SQL

1. Structure Query Language Basics
2. CRUD (Create Read Update Delete) operations
3. Operators OR AND
4. Order By Group By
5. Paginations and Limits

6. SQL joins

7. Functions

8. Primary Key and Foriegn Key

9. Subqueries

10. Alter Table

11. SQL Injections

12. Problem Statements

13. MySQL

14. Working with MySQL Workbench Community Edition

15. PostgreSQL

16. Complex Interview Questions

Bootstrap

1. Containers

2. Grid Basics

3. Jumbotron

4. Buttons

5. Badges

6. Cards

7. Navigation

jQuery

1. Syntax

2. Selectors

3. Events

4. Effects

AJAX

1. Loading jQuery
2. Cross-site request forgery in AJAX requests
3. Performing AJAX requests with jQuery

Django

1. Building Blog Application
   a. Data Schema
   b. Administrator Models
   c. QuerySets
   d. Templates and Pagination
2. Enhancing blogs with advance features
   a. Emails
   b. Comment System
3. Building a Social Website
   a. Login and Registration
   b. Authentication Backend
   c. Social Authentication, like facebook, twitter, google
   d. Sharing content
   e. Adding AJAX action with jQuery
4. Building an Online Shop
   a. Shipping cart
   b. Registering user orders
5. E-learning Platform
   a. Course model

b. Creating models of diverse content

　　　　c. CMS

6. RESTful APIs

　　　a. Installing REST framework

　　　b. Parsers and renders

　　　c. Handling Authentication

7. Chat server

　　　a. Creating a Chat application

　　　b. Routing

8. Going Live

　　　a. Production environment

　　　b. PostgreSQL

　　　c. WSGI

　　　d. NGINX

Git - Version Control

1. Initiate Repository
2. Commit
3. Pull
4. Push
5. Controlling end to end project
6. Working with Your team using Git Branches

Integrating Django and React

1. Django and React Setup
2. Creating Django API and Integration with React
3. Authentication to React using Django REST Framework.

Deployment

1. Heroku
2. Understanding going live as a product.

Approach for Placement Requirements

1. Competitive Programming

   Competitive Programming will start after Loops and Functions, parallelly with further topics.

2. Logical Thinking

   Logical Programming will start from day one parallelly.

3. Building Strategy for Technical Rounds
4. Solving more than 500+ problem statements and interview questions.
5. Building mini Projects for understanding of different modules.

Materials & Resources

1. PDFs
2. Booklets
3. Code files
4. Useful links
5. Session Recordings

Will be provided as we move further with each and every topic

Join the Full Stack Development What'sApp Group here:

https://chat.whatsapp.com/CEthikwvNgh5R2jSXDgv4X

Connect with me on these platforms:

LinkedIn : https://www.linkedin.com/in/hemansnation/

GitHub : https://github.com/hemansnation

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