1. Computer Science Fundamentals (If you don't have a CS background)
    a. **edX -** Introduction to Computer Science and Programming Using Python | edX
    b. **edX** - CS50's Introduction to Computer Science
    c. **Coursera** - Computer Communications Specialization
    d. **Book -** Grokking Algorithms: An illustrated guide

2. Programming Language

    Do any courses, your main goal here is to understand how to write basic Python Code and how to work with different datasets!

    a. **Darshil -** Python for Data Engineering **(Recommended)**
    b. **DataCamp** - Data Engineering With Python
    c. **Coursera** - Python for Everybody Specialization (Do this if you don't know anything about python)
    d. **edX** - Python Basics for Data Science | edX
    e. **Udemy** - Python Bootcamps: Learn Python Programming and Code Training

Practice Projects:

- Scrape Data Using BeautifulSoup Library eg. Amazon, Covid, Wikipedia, or any website you like
- Build A Calculator Using Python

3. SQL (Structured Query Language)

    Learn about the basics of SQL and how to write queries, once you complete the course make sure you do hands-on practice on Hackerrank or any website you like!

    a. **Udemy** - The Complete SQL Bootcamp for the Manipulation and Analysis of Data (Recommended)
    b. **Coursera** - SQL for Data Science
    c. **DataCamp** - Intro To SQL DataCamp

Practice SQL here

- Hackerrank SQL

4. Basics Of Linux

    Why Linux? Because you will be working with many remote machines, doing SSH to access them, and performing operations so it's important to learn them.

    You don't have to remember all the commands but just understand what they do and how to write them

    a. **Udemy** - Linux for Beginners: Linux Basics (Recommended)
    b. **Coursera** - Linux Fundamentals

Do Hands-On Project

- Beginner Data Engineering Portfolio Project (Recommended)

5. Big Data Fundamentals

   This section is theoretical and you need to understand how big data system works and their history of them

   a. **Coursera** - Big Data Specialization (Recommended)
   b. **edX** - Big Data Fundamentals
   c. **Udemy** - Learn Big Data: The Hadoop Ecosystem Masterclass (Do this if you want to learn about legacy systems)

6. Data Warehouse Fundamentals

   Same as the previous section, more theory, and understanding of concepts

   a. **Coursera** - Data Warehousing for Business Intelligence Specialization (recommended for deep dive)
   b. **Udemy** - Data Warehouse Fundamentals for Beginners (recommended for quick learning)

7. Learn Batch/Realtime Streaming Pipeline Building
   a. Batch Pipeline (Spark)
      i. **DataCamp** - Big Data Fundamentals with PySpark (recommended)
      ii. **Udemy** - Spark and Python for Big Data with PySpark
   b. Realtime Streaming (Kafka)
      i. **Udemy** - Apache Kafka Course for Beginners: Learn Kafka Online (check this)
      ii. **edX** - Building ETL and Data Pipelines with Bash, Airflow, and Kafka

8. Data Orchestration (AirFlow)
   a. Udemy - The Complete Hands-On Introduction to Apache Airflow
   b. DataCamp - Airflow

9. Dashboard Tool

   There are two ways to visualize, one using code and another one using the tool so I have added both here

   a. Udemy - Python Data Analysis & Visualization Masterclass (Using Code)
   b. Udemy - Tableau 10: Training on How to Use Tableau For Data Science (Using Tool)
   c. Coursera - Data Visualization with Tableau Specialization
   d. Udemy - Microsoft Power BI with Desktop Training Course

10. Cloud Computing

Advance section, do courses, and then do the certification to add value in your Resume, If you are new then start with AWS but if you know about other clouds then you can do that too!

a. AWS (Amazon Web Services)
    i. Udemy - Ultimate AWS Certified Cloud Practitioner
    ii. Udemy - Ultimate AWS Certified Solutions Architect Associate (SAA)
b. GCP (Google Cloud Platform)
    i. Coursera - Cloud Data Engineer Professional Certificate
c. Microsoft Azure
    i. Udemy - AZ-900: Microsoft Azure Fundamentals
    ii. Udemy - Azure Data Engineer Certified:8 COURSE BUNDLE

Once you learn about different services then consider doing some hands-on projects

Do Hands-On - Data Engineering Cloud Project Series (AWS)
Do Hands-On - YouTube Data Analysis Project (AWS)