Phase 1:Indroduction to data science and python for data science

Introduction to data science :

KThe simplest definition of data science is the extraction of actionable insights from raw data. •Turing award winner Jim Gray imagined data science as a "fourth paradigm" of science (empirical, theoretical, computational and now data-driven) and asserted that "everything about science is changing because of the impact of information technology" and the data deluge

Customer Prediction - System can be trained based on customer behavior patterns to predict the likelihood of a customer buying a product

Service Planning - Restaurants can predict how many customers will visit on the weekend and plan their food inventory to handle the demand

Python for data science :

A simple and easy to learn language which achieves result in fewer lines of code than other similar languages like R. Its simplicity also makes it robust to handle complex scenarios with minimal code and much less confusion on the general flow of the program.
It is cross platform, so the same code works in multiple environments without needing any change. That makes it perfect to be used in a multi-environment setup easily.
It executes faster than other similar languages used for data analysis like R and MATLAB.
Its excellent memory management capability, especially garbage collection makes it versatile in gracefully managing very large volume of data transformation, slicing, dicing and visualization.
Most importantly Python has got a very large collection of libraries which serve as special purpose analysis tools. For example – the NumPy package deals with scientific computing and its array needs much less memory than the conventional python list for managing numeric data. And the number of such packages is continuously growing.
Python has packages which can directly use the code from other languages like Java or C. This helps in optimizing the code performance by using existing code of other languages, whenever it gives a better result.