**📄 SRS Document**

**Project Title:** Python   
**Intern’s Name:** *Vedashree Nimje*

**Background**

The project was developed during the Cloud Counselage Internship using Python. It focuses on analyzing a dataset containing student academic and skill-related information to derive meaningful insights. The objective is to answer predefined analytical questions using Python programming and visualization libraries.

**Project Overview**

This project involves performing data cleaning, manipulation, and visualization on a student profile dataset using Python. The analysis addresses specific questions related to academic performance, skills, city-wise distribution, leadership, and salary expectations. The end goal is to derive actionable insights and present findings through code and visualizations**.**

**Hardware Requirements**

* A laptop or desktop with minimum:
  + 4 GB RAM
  + Dual-core processor (Intel i3 or equivalent)
  + Internet connectivity for cloud-based platforms

**Software Requirements**

* Python 3.x
* Google Colab / Jupyter Notebook
* Libraries: pandas, numpy, matplotlib, seaborn

**Constraints**

* Dataset quality: Some columns had inconsistent or missing values.
* Limited scope: Analysis was restricted to only available columns in the dataset.
* Project was individual, so tasks like model deployment or frontend integration were not in scope.

**Assumptions**

* All data in the Excel sheet is assumed to be accurate and up to date.
* Column names are assumed to represent consistent values across rows.
* Visual and textual analysis was expected, without deployment.

**Risks**

* Human error in interpreting ambiguous column names.
* Limited dataset features could lead to incomplete analysis in some areas.
* Risk of accidental wrong file uploads in the submission system.

**Functional Requirements**

* Read and clean Excel dataset
* Filter and group data based on conditions
* Generate visualizations for trends
* Provide output to answer specified questions (e.g., highest CGPA, top cities, salary trends)

**Non-functional Requirements**

* Maintain clean, readable code with comments
* Ensure output is reproducible in any Python environment
* Visualizations should be clear and labeled
* Code must run within Google Colab or Jupyter Notebook without errors

**External Interface Requirements**

* Google Colab or Jupyter environment for running the Python notebook
* Excel file input (Python Data.xlsx)
* No external APIs or databases were used

**Technology Used**

* Language: Python 3.x
* Tools: Google Colab
* Libraries: pandas, numpy, matplotlib, seaborn
* File format: .xlsx (input), .ipynb (project notebook).