Group Members

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Group Name: Code Pair

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1. Project Title:

Topic No.5 :University Admission Eligibility Calculator

2. Project Description:

The **University Admission Eligibility Calculator** is an automated system developed to simplify the process of evaluating students' eligibility for admission into various engineering and technology universities in Karachi, Pakistan. The system utilizes the academic scores from SSC (Secondary School Certificate), HSC (Higher Secondary Certificate), and Aptitude Test results to calculate eligibility based on predefined formulas for each university.

This project aims to help students quickly determine whether they meet the criteria for admission to top universities, streamlining the university application process. By automating eligibility evaluations, the system reduces human error, ensures transparency, and accelerates decision-making.

3. Project Methodology:

3.1 Dataset:

- **SSC Scores**: Secondary school results provided by the student.
- **HSC Scores**: Higher secondary school results provided by the student.
- **Aptitude Test Scores**: Results from the university-specific entrance tests.
- All scores are input by the user and processed according to the eligibility criteria set by each university.

3.2 Tools and Technologies:

- **Programming Language**: C
- **Libraries**: Standard C libraries (for input, output, and mathematical operations)
- **Environment**: Console-based application

3.3 Algorithm:

- **Model Type**: Eligibility calculation based on weighted average formulas.
- **Process**:
  - The system applies different weightages to SSC, HSC, and Aptitude Test scores for each university.
  - It then checks if the student meets the minimum required score for each university.
- **Logic**: Each university has a unique weightage for SSC, HSC, and Aptitude Test scores (e.g., 40% SSC, 60% Aptitude Test).

3.4 Objectives:

- To **automatically evaluate eligibility** for top engineering universities based on the student's academic scores.
- To **reduce human error** by automating the calculation process.
- To **provide real-time results** indicating where the student qualifies for admission.
- To **enable customization** of eligibility criteria for different universities.
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3.5 Timeline:

Week	*Task*
Day 1	Problem Definition, Dataset Collection
Day 2	Data Preprocessing, Model Design, and Training
Day 3	Implementation on Images & Videos, Web Integration
Day 4	Final Testing and Report Preparation

3.6 Expected Outcomes:

- **Trained and functional system** that can evaluate eligibility for top universities in Karachi.
- **Real-time eligibility feedback** based on the student's academic results.
- **Modular, reusable code** that can be adapted to other universities or updated eligibility criteria.

3.7 Goals:

- **Achieve 100% accuracy** in eligibility calculations based on input data.

- **Create an extensible framework** that can be easily adapted to additional universities or changing eligibility criteria.

4. Justification – Why it is a Complex Computing Problem:

This project qualifies as a **complex computing problem** because it involves:

- **Data processing and analysis** of multiple academic scores to calculate eligibility using different weightages for each university.
- **Real-time feedback**: Providing immediate results based on input data, which requires efficient computation and error handling.
- **Customization**: The system must accommodate different eligibility criteria across various universities, which requires flexible architecture.

Additionally, there may be challenges in managing multiple input formats, ensuring error-free data input from the user, and customizing the criteria for each university based on changing admission policies.

5. Industrialization/Commercial Product Potential:

The **University Admission Eligibility Calculator** has strong potential for broader applications:

- **University Admission Systems**: The system can be integrated into official university portals for automated eligibility evaluation, ensuring consistent and timely admissions processing.
- **Online Platforms**: This tool could be expanded to support multiple countries or regions, making it useful for students applying to universities globally.
- **Mobile App**: A mobile version of the tool could be developed to allow students to check eligibility on the go, increasing accessibility.

With further development, the tool could be adapted for use by educational institutions globally, streamlining the application process for students and administrators alike.