This document provides an overview of a project aimed at predicting student performance in mathematics using machine learning techniques.

Objectives:

Overall, the document provides a comprehensive overview of the project, its objectives, methodology, and the technologies used. It also emphasizes the educational nature of the project and provides necessary installation steps for interested individuals to try it out.

Documented on 30th March, 2024 by Kella Eric Mwinwule

1. Why this porject

The project aims to utilize machine learning to predict student performance in mathematics based on various factors. It emphasizes the importance of understanding these factors to provide appropriate support and educational strategies for students.

2. Disclaimer:

The project emphasizes that its results are for educational purposes only and should not be considered definitive or accurate for real-world scenarios. It aims to showcase the application of machine learning techniques rather than providing concrete predictions.

3. Features:

The project includes features such as predicting student performance based on multiple factors including gender, ethnicity, parental level of education, lunch type, and test preparation course. It also provides insights into the influence of these factors on student performance.

4. Dataset:

The dataset used for training the machine learning model is sourced from Kaggle, specifically the "Students Performance in Exams" dataset. It contains information about students' demographics, parental education, lunch type, test preparation course, and math scores.

5. Model Training:

The machine learning model is trained using supervised learning algorithms such as decision trees or random forests. The dataset is split into training and testing sets to evaluate the model's performance.

6. Technology Used:

The project utilizes various technologies including Python for programming, libraries such as Pandas, Numpy, and Scikit-learn for data manipulation and machine learning, Flask for web development, and HTML/CSS for creating a user-friendly interface.

7. \*\*Installation Steps\*\*: The document provides installation steps for setting up the project environment, including installing Python 3.7.0 and the required dependencies using `pip install`.

8. \*\*Execution\*\*: The document provides a command (`python app.py`) to execute the application after installing the dependencies.

Overall, the document provides a comprehensive overview of the project, its objectives, methodology, and the technologies used. It also emphasizes the educational nature of the project and provides necessary installation steps for interested individuals to try it out.