1. **Project Title:** Grade Calculator
2. **Team member's Name and ID:** I) MD. Siam Sheikh (2023100000033) & II) Tonni

  Biswas (2023100000016)

1. **Project Objective:**

1. **Grade Calculation and Management:** Create a user-friendly interface that allows users to input and manage grades for multiple courses, including assignments, quizzes, and exams.
2. **Accuracy:** Ensure accurate calculation of grades based on user-entered scores and weightage for each assessment component, taking into account different grading scales and methods.
3. **Usability:** Design an intuitive and easy-to-use GUI that caters to users of varying technical backgrounds, making it accessible and straightforward to navigate.
4. **Efficiency:** Provide an efficient means of calculating overall grades, saving users time and effort in manual grade calculations.
5. **Grade Prediction:** Offer a feature that helps users predict their final grades based on their current performance and the weightage of remaining assessments.
6. **Stakeholder:**

1. **Students:** Students are the primary users of the grade calculator. They use it to calculate and manage their grades for various courses and assessments.
2. **Educators/Teachers:** Teachers may use the grade calculator to calculate and manage grades for their students, especially in cases where they need to weight different assessment components.
3. **Academic Institutions:** Schools, colleges, and universities are stakeholders as they may encourage or require students and teachers to use a grade calculator to streamline the grading process.
4. **Administrators:** Administrators within educational institutions may oversee the implementation and usage of the grade calculator to ensure its effectiveness and compliance with institutional policies.
5. **Parents/Guardians:** Parents and guardians of students may be interested in monitoring their child's academic progress and could use the grade calculator to do so.
6. **Developers/IT Department:** The team responsible for developing and maintaining the grade calculator application are stakeholders, as they need to ensure the software is functioning correctly and securely.
7. **Features of the projects [Functional requirement]:** 
   1. **User Interface:**

* Create an intuitive GUI that includes labels, input fields, buttons, and other elements for user interaction.
* Design a clean and user-friendly layout for easy navigation.
  1. **Grade Entry:**
* Provide input field for users to enter their scores for various assessments within each course.
  1. **Grade Calculation:**
* Implement logic to automatically calculate the overall grade for each course based on the entered scores.
  1. **Grade Display:**
* Display the calculated grades for each course in a clear and organized manner within the GUI.
* Show the overall GPA (Grade Point Average) if applicable.
  1. **Grade Scale Configuration:**
* Allow users to configure the grading scale used by the institution such as A+, A, B, C, D, F.
  1. **Grade Prediction:**
* Provide a button or feature to estimate the final grade based on the user's current performance and the remaining assessments.

1. **Draw the activity/ flow chart diagram:**

User Choose to

Display the Calculate Grade

User Enters Assessment Scores

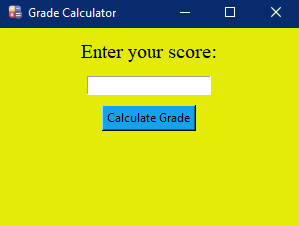
Initialize GUI Components (e.g., Labels, Input Fields, Buttons)

**END**

Exit the Application

**Start The Program**

1. **Design the GUI (Graphical user interface of your system, scratch it using paper or any other tools before development):**



import tkinter as tk

from tkinter import messagebox

def calculate\_grade():

try:

score = float(entry\_score.get())

if score<=100 and score >= 90:

grade = "A+"

elif score<=89 and score >= 80:

grade = "A"

elif score<=79 and score >= 70:

grade = "B"

elif score<=69 and score >= 60:

grade = "C"

elif score<=59 and score >= 40:

grade = "D"

else:

grade = "F"

messagebox.showinfo('Grade Info', f"You have obtained Grade {grade}")

except ValueError:

messagebox.showerror("Error", "Please enter a valid numeric score.")

app = tk.Tk()

app.title("Grade Calculator")

app.config(bg='#e3eb07')

app.geometry('300x200')

label = tk.Label(app, text="Enter your score:", font=('times', 15), bg='#e3eb07')

label.pack(pady=10)

entry\_score = tk.Entry(app)

entry\_score.config(fg='#ed051c')

entry\_score.pack()

button = tk.Button(app, text="Calculate Grade", command=calculate\_grade)

button.config(bg='#11a4ed')

button.pack(pady=10)

app.mainloop()