TITLE OF PROJECT REPORT

GRADE CALCULATOR

Submitted by

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In partial fulfillment for the award of the degree of

BACHELOR'S OF COMPUTER APPLICATION
IN
UNIVERSITY INISTITUE OF COMUTING
CHANDIGARH UNIVERSITY

Chandigarh University

APRIL 2025

BONAFIDE CERTIFICATE

Certified that this project report **"GRADE CALCULATOR"** is the bonafide work of "**PARAMJIT SINGH"** who carried out the project work under supervision of **Ms. AMBIKA.**

SIGNATURE
(Ms. AMBIKA)
Assistant professor
University Institute of Computing

INTERNAL EXAMINER **EXTERNAL EXAMINE**

1.) Introduction:

In this project, I have created an Excel-based Grade Calculator that automatically calculates student scores, averages, and grades. The project aims to simplify the grading process for instructors by automating calculations and providing a quick way to assess student performance. The use of Excel's built-in functions such as SUM, AVERAGE, and IF, along with conditional formatting, helps in creating an efficient and visually appealing grade report.

2.) Aim:

- The main aim of this project is to develop an Excel spreadsheet that:
- Accepts student scores for multiple subjects.
- Calculates the total score for each student.
- Automatically calculates the average score.
- Assigns grades based on the average score.
- Visually highlights grades using conditional formatting to improve data interpretation.

3.) Objectives:

The objectives of the project are as follows:

1. **Input Student Scores**: Allow input of student scores for multiple subjects.
2. **Calculate Total Score**: Automatically calculate the total score for each student.
3. **Calculate Average Score**: Automatically calculate the average score for each student based on their total score.
4. **Assign Grades**: Automatically assign grades based on predefined criteria (e.g., A, B, C, D, E, F).
5. **Visual Representation**: Use conditional formatting to color-code grades for better visual interpretation.
6. **Improve Efficiency**: Reduce the manual effort required in calculating scores and grades.

4.) Steps Involved:

The process of developing the Grade Calculator involved several key steps:

Step 1: Setting Up the Data Table

- Created an Excel sheet with columns for student names, scores for each subject, total score, average score, and grade.
- Designed the table to include columns for **Student Name**, **Score 1**, **Score 2**, **Score 3**, **Score 4**, **Total Score**, **Average Score**, and **Grade**.

Step 2: Calculating Total Score

- Used the **SUM** function to calculate the total score for each student across all subjects. For example, the formula **=SUM(B2:E2)** sums the scores of the first student across columns B to E.

Step 3: Calculating Average Score

- Used the formula **=F2/4** (where F2 is the total score) to calculate the average score. The divisor (4) is based on the number of subjects; this can be adjusted if more subjects are added.

Step 4: Assigning Grades

- Used the **IF** function to assign grades based on the average score. The formula **=IF(G2>=90, "A", IF(G2>=80, "B", IF(G2>=65, "C", IF(G2>=40, "D", IF(G2>=35, "E", "F"))))))** assigns grades based on the following criteria:
- A: 90 or above
- B: 80 to 89
- C: 65 to 79
- D: 40 to 64
- E: 35 to 39
- F: Below 35

Step 5: Applying Conditional Formatting

- Added conditional formatting to color-code the grades. For example:
- **Green** for grade A
- **Yellow** for grade B
- **Orange** for grade C
- **Light Red** for grade D
- **Marron** for grade E
- **Dark Red** for grade F
- This helps visually interpret student performance at a glance.

Step 6: Testing and Debugging

- After setting up the calculations and formatting, the system was tested by entering different sets of scores to ensure that the formulas were working correctly and that the conditional formatting was applied properly.

5.) Learning Outcomes:

Through the development of this Grade Calculator project, I gained several key skills and insights, including:

1. **Excel Formulas and Functions**:
   - Gained proficiency in using Excel functions such as **SUM**, **AVERAGE**, and **IF** to perform calculations.
2. **Conditional Formatting**:
   - Learned how to apply conditional formatting to automatically change the appearance of cells based on certain conditions, improving the user experience and making data easier to interpret.
3. **Data Organization**:
   - Developed an understanding of how to structure and organize data efficiently in Excel for easy analysis and interpretation.

4. **Automation of Processes**:

   - Gained an understanding of how automating calculations in Excel can reduce the time and effort required to process data, making tasks more efficient.

5. **Problem-Solving and Debugging**:

   - Encountered and solved issues related to formulas and formatting, improving my troubleshooting skills and attention to detail.

6.) Conclusion:

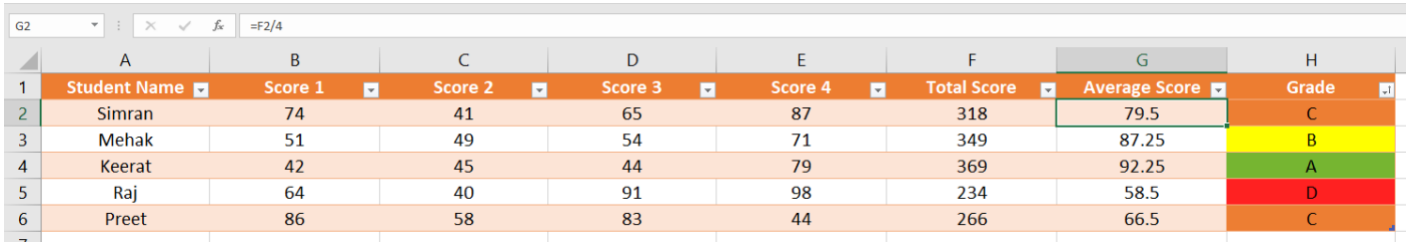
The Grade Calculator project was successfully implemented, achieving all the intended goals. The tool now allows for quick and efficient grade calculation based on student scores, automatically generating total scores, averages, and grades. The use of conditional formatting enhances the visual representation, making it easier to identify student performance trends. This project has significantly improved my skills in using Excel for data management and has provided valuable insights into automating tasks for greater efficiency.

OUTPUT:

	A	B	C	D	E	F	G	H
1	Student Name	Score 1	Score 2	Score 3	Score 4	Total Score	Average Score	Grade
2	Simran	72	74	72	100	318	79.5	C
3	Mehak	88	72	96	93	349	87.25	B
4	Keerat	89	98	88	94	369	92.25	A
5	Raj	66	41	54	73	234	58.5	D
6	Preet	53	60	86	67	266	66.5	C

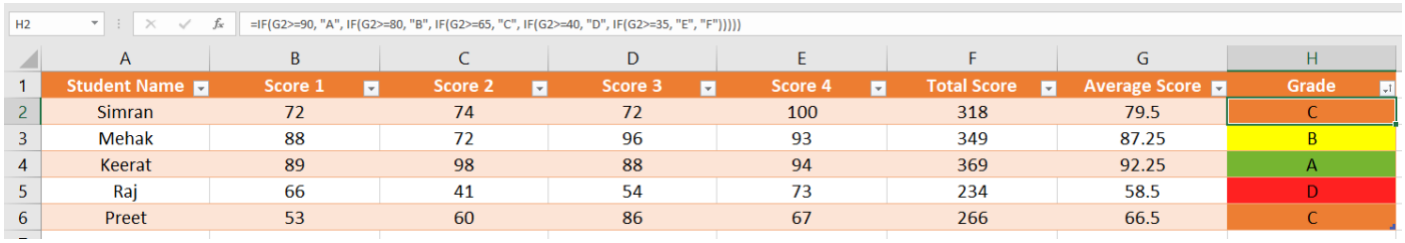
F2 =SUM(B2:E2)

	A	B	C	D	E	F	G	H
1	Student Name	Score 1	Score 2	Score 3	Score 4	Total Score	Average Score	Grade
2	Simran	72	74	72	100	318	79.5	C
3	Mehak	88	72	96	93	349	87.25	B
4	Keerat	89	98	88	94	369	92.25	A
5	Raj	66	41	54	73	234	58.5	D
6	Preet	53	60	86	67	266	66.5	C
7								



G2 =F2/4

	A	B	C	D	E	F	G	H
1	Student Name	Score 1	Score 2	Score 3	Score 4	Total Score	Average Score	Grade
2	Simran	74	41	65	87	318	79.5	C
3	Mehak	51	49	54	71	349	87.25	B
4	Keerat	42	45	44	79	369	92.25	A
5	Raj	64	40	91	98	234	58.5	D
6	Preet	86	58	83	44	266	66.5	C



H2 =IF(G2>=90, "A", IF(G2>=80, "B", IF(G2>=65, "C", IF(G2>=40, "D", IF(G2>=35, "E", "F"))))

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