Loan Calculator

Your assignment: Create a simple loan calculator system. You are free to use any IDE you like.

Here are the requirements:

- The user should be prompted to enter the following fields:
    - Loan amount
    - Interest rate
    - Number of years
- The program should output:
    - The monthly payment amount
    - The total amount paid back
    - The compound interest
- The user should have the option to display a table of all payments with the following headers:
    - Payment no.
    - Amount
    - Interest
    - Principal
    - Remaining Balance

This project is worth **50%** of your overall grade.

Table 1: Marking Scheme

	UNSATISFACTORY [-100%] NOTE: ANY UNSATISFACTORY CRITERIA WILL RESULT IN A ZERO GRADE FOR THAT SECTION OF THE ASSIGNMENT	SATISFACTORY NOTE: MUST NOT INCLUDE ANY "UNSATISFACTORY" CRITERIA	GOOD NOTE: MUST ALSO INCLUDE ALL "SATISFACTORY" CRITERIA, AND NO "UNSATISFACTORY" CRITERIA	EXCELLENT NOTE: MUST ALSO INCLUDE ALL "GOOD" CRITERIA, AND NO "UNSATISFACTORY" CRITERIA
DELIVERY [WEIGHT: 21%]	• COMPLETED LESS THAN 75% OF THE REQUIREMENTS. • NOT DELIVERED ON TIME OR NOT IN CORRECT FORMAT (DISK, EMAIL, CANVAS, PRINTOUT ETC.) • DOES NOT COMPLY WITH REQUIREMENTS (DOES SOMETHING OTHER THAN REQUIREMENTS).	• COMPLETED AT LEAST 75% OF THE REQUIREMENTS. DELIVERED ON TIME, AND IN CORRECT FORMAT.	• COMPLETED BETWEEN 80-99% OF THE REQUIREMENTS.	• COMPLETED 100% OF REQUIREMENTS
CODING STANDARDS [WEIGHT: 21%]	• NO PROGRAMMER NAME INCLUDED • POOR USE OF WHITE SPACE (INDENTATION, BLANK LINES) MAKING CODE HARD TO READ. • DISORGANIZED AND MESSY AMBIGUOUS IDENTIFIERS.	• INCLUDES NAME, AND ASSIGNMENT TITLE. • WHITE SPACE MAKES PROGRAM FAIRLY EASY TO READ. • ORGANIZED WORK. • GOOD USE OF VARIABLES.	• GOOD USE OF WHITE SPACE. • ORGANIZED WORK. • GOOD USE OF VARIABLES AND CONSTANTS • MINIMUM LINE-WRAP	• EXCELLENT USE OF WHITE SPACE. • CREATIVELY ORGANIZED WORK. • EXCELLENT USE OF VARIABLES AND CONSTANTS. NO LINE-WRAP
DOCUMENTATION [WEIGHT: 7%]	• NO DOCUMENTATION INCLUDED.	• BASIC DOCUMENTATION HAS BEEN COMPLETED INCLUDING A SUMMARY OF REQUIREMENTS. • PURPOSE IS NOTED FOR EACH FUNCTION.	• PURPOSE IS NOTED FOR EACH FUNCTION AND CONTROL STRUCTURE.	• SPECIFIC PURPOSE IS NOTED FOR EACH FUNCTION, CONTROL STRUCTURE, INPUT REQUIREMENTS, AND OUTPUT RESULTS.
RUNTIME [WEIGHT: 14%]	• DOES NOT EXECUTE DUE TO SYNTAX ERRORS. • DOES NOT EXECUTE DUE TO RUNTIME ERRORS (ENDLESS LOOP, CRASHES ETC.) • USER PROMPTS ARE MISLEADING OR NON-EXISTENT. • NO TESTING HAS BEEN COMPLETED.	• EXECUTES WITHOUT ERRORS. • USER PROMPTS CONTAIN LITTLE INFORMATION, POOR DESIGN. • SOME TESTING HAS BEEN COMPLETED.	• EXECUTES WITHOUT ERRORS. USER PROMPTS ARE UNDERSTANDABLE, MINIMUM USE OF SYMBOLS OR SPACING IN OUTPUT. • THOROUGH TESTING HAS BEEN COMPLETED	• EXECUTES WITHOUT ERRORS EXCELLENT USER PROMPTS, GOOD USE OF SYMBOLS, SPACING IN OUTPUT. THOROUGH AND ORGANIZED TESTING HAS BEEN COMPLETED AND OUTPUT FROM TEST CASES IS INCLUDED.
EFFICIENCY [WEIGHT: 7%]	• A DIFFICULT AND INEFFICIENT SOLUTION.	• A LOGICAL SOLUTION THAT IS EASY TO FOLLOW BUT IT IS NOT THE MOST EFFICIENT.	• SOLUTION IS EFFICIENT AND EASY TO FOLLOW (I.E. NO CONFUSING TRICKS).	• SOLUTION IS EFFICIENT, EASY TO UNDERSTAND, AND MAINTAIN.
PROJECT REPORT [WEIGHT: 30%]	• NOT DELIVERED ON TIME • DOES NOT FOLLOW STATED FORMAT • NO COVER PAGE	• FOLLOWS STATED FORMAT	• HAS COVER PAGE WITH PROJECT TITLE, LECTURER & STUDENT NAMES • HAS TABLE OF CONTENTS • CONTENT IS COHERENT • CONSISTENT FONT SIZE AND STYLE	• CONTENT IS DESCRIPTIVE, COHERENT & GRAMMATICALLY CORRECT • REFERENCES IN APA FORMAT

A project report must be included adhering to the following format:
- Cover Page
- Table of Content
- Abstract
- General Terms
- Keywords
    1. Introduction
    2. Designing Functions
        - State the use of each function present in your code
    3. Algorithm
        - Describe step-by-step how the program cycle executes
            - Pseudocode
            - Flowchart
    4. Output from test cases
        - Include screenshots of output from test cases with brief description
    5. Conclusion & Future Scope
    6. References

Breakdown of total grade:
Code – 70%
Report – 30%