

## Question 1

You are given a list of students names and their test scores. Design a pseudocode that does the following:

- a. Calculates the average test scores.
- b. Determines and prints the names of all the students whose test scores are below the average test score.
- c. Determines the highest test score.
- d. Prints the names of all the students whose test scores are the same as the highest test score.

You are to divide this problem into sub problems as follows:

- a. The first sub problem determines the average test score.
- b. The second sub problem determines and prints the names of all the students whose test scores are below the average test score.
- c. The third sub problem determines the highest test score.
- d. The fourth sub problem prints the names of all the students whose test scores are the same as the highest test score. The main pseudocode combines the solutions of the sub problems.

## Question 2

Write a program that prompts the user to input a number of quarters, dimes, and nickels. The program then outputs the total value of the coins in pennies.

## Question 3

Write a program, using case statements, that mimics a calculator. The program should take as input two integers and the operation to be performed. It should then output the numbers, the operator, and the result. For division, if the denominator is zero, output an appropriate message.

Some sample outputs are as follow:

3 + 4 = 7  
13 \* 5 = 65

## Question 4

Write a program that reads a set of integers and then finds and prints the sum of the even and odd integers.

## Question 5

Write a program that uses while loops to perform the following steps:

- Prompt the user to input two integers: firstNum and secondNum (firstNum must be less than secondNum).
- Output all odd numbers between firstNum and secondNum.
- Output the sum of all even numbers between firstNum and secondNum.
- Output the numbers and their squares between 1 and 10.
- Output the sum of the square of the odd numbers between firstNum and secondNum.
- Output all uppercase letters.

Criteria	Needs Improvement	Satisfactory	Excellent	Points Possible
<b>Delivery</b>	Completed fewer than 80% of the requirements  Not delivered on time, or in the incorrect format	Completed most of the requirements  Delivered on time, and in correct format	Completed 100% of the requirements.  Delivered on time, and in correct format	0-20
<b>Coding Standards</b>	Name, date, or assignment title missing  Poor use of white space (indentation, blank lines)  Disorganized and messy  Poor use of variables (many global variables, unambiguous naming)	Includes name, date, and assignment title  White space makes program fairly easy to read  Organized work  Good use of variables (some global variables, unambiguous naming)	Includes name, date, and assignment title  Excellent use of white space  Efficiently organized work  Excellent use of variables (no global variables, unambiguous naming)	0-20
<b>Documentation</b>	No documentation included	Basic documentation has been completed including descriptions of all variables  Purpose is noted for each function	Clearly and effectively documented including descriptions of all variables  Specific purpose is noted for each function, control structure, input requirements, and output results	0-20
<b>Execution</b>	Program does not execute due to errors  User prompts are misleading or non-existent	Executes without errors  User prompts are understandable	Executes without errors  Excellent user prompts, good use of symbols, spacing in output	0-20
<b>Solution Efficiency</b>	Solution is difficult and inefficient	A logical solution that is easy to follow but is not the most efficient	Solution is efficient, easy to understand, and easy to maintain	0-20

