**CMSC140 Programming Classwork/Homework**

**Develop**  program to read as many test scores as the user wants from the keyboard (assuming at most **50** scores).

Print the scores in (1) original order, (2) sorted from high to low (3) the highest score, (4) the lowest score, and  (5) the average of the scores.

Implement the following functions using the given function prototypes:

**void displayArray(int array[], int size)** -  Displays the content of the array

**void selectionSort(int array[], int size)** - sorts the array using the selection sort algorithm in descending order.  **Hint**: refer to example 8-5 in the textbook.

**int findMax(int array[], int size)** -  finds and returns the highest element of the array

**int findMin(int array[], int size)** -  finds and returns the lowest element of the array

**double findAvg(int array[], int size)** - finds and returns the average of the elements of the array

Name your file FirstInitialLastName\_CW\_8. cpp

**Submit:**

C++ file (source code): FirstInitialLastName\_CW\_8. cpp

Screenshot of output in Word Document - use your name, CRN, a semester in the file name, and also in the Word document.

**Example output:**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Text

Description automatically generated

**Grading Rubric:**

|  |  |
| --- | --- |
| Grading Criteria | 100 Points |
| 1. File format requirements | 5 |
| 1. Word Document with following requirements listed below:    1. Algorithm/Pseudocode. (-10)    2. Screen prints of program run. (-10) | 20 |
| 1. Submit LastNameFirstName\_CW\_8.cpp file    1. Program passes sample data tests.  (-10)    2. Program passes instructor data tests. (-10)    3. Quality of detailed steps and screenshots as per requirements listed above. (-5)    4. Incorrect use of indentation, naming convention, etc. (-5)    5. Not meet input requirement(s)/Took input incorrectly  (-5)    6. Not display or produce all required output. (-5)    7. Not meet output requirements. (-10)    8. Not use required control structure(s), operator(s) or statement(s). (-10)    9. Not use variables, constants, and literals (-3)    10. Not declare and initialize all required data items (-3)    11. Not use output manipulator: setprecision, fixed, etc. (-4) | 70 |
| 4.  Submitted the deliverables as per the due dates specified in the course schedule. | 5 |
|  | 100 |

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Header to include in source code:

 \* Class: CMSC140 CRN

 \* Instructor:

 \* Classwork/Homework/<1>

 \* Description:

 \* Due Date:

 \* I pledge that I have completed the programming assignment independently.

   I have not copied the code from a student or any source.

   I have not given my code to any student.

   Print your Name here:

   \* Pseudocode or Algorithm for the program:

                (be sure to indent items with control structure)

                (need to match flow chart submitted in documentation)

  1.Declare a variable visitorName.

  2.Receive the input visitorName.

  3.Declare a variable num, and receive the input and store the data num.

  4.Caculate years, months, days, hours, minutes, seconds, human age, dog age and fish age.

  5.Declare variables num1 and num2.

  6.receive the input and store the data num1 and num2.

  7.using operator "+,/" to calculate, and using cast expression to convert double.

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