CS 128 – Introduction to C++, Assignment 4

The purpose of this homework is to gain experience using arrays, in particular iterating through them and accessing values in them.

You are given a set of grades for a student population in a course. There are 25 students in the course with following final scores out of 100 total grade.
{45, 100, 89, 56, 65, 45, 73, 20, 88, 92, 94, 50, 99, 39, 66, 55, 45, 66, 82, 69, 73, 77, 55, 53, 81}

Requirements

- Use an integer array to store above grades.
- Do the following operations based on the class grades and display the results. Your program should calculate all of the following programmatically.
  - Find the minimum grade of the class population and display the resultant grade.
  - Find the maximum grade of the class population and display the results.
  - Find the average of the class grades and display the results. Your class average should display for only 2 decimal places.
  - Next, sort the array in ascending order
  - Find the median of the class grades using the sorted array and display the results. Median is the middle value of the array. If the size N of the array is an odd number, then the median is at index (N-1)/2. If the size N of the array is an even number then, the median is the average of 2 middle numbers. In this problem, your array size is an Odd number.
  - 5 Bonus points: Find the mode of the class population programmatically using the sorted array and display the result. The mode is the number repeated most often.
- Make sure you have your name and Bronco ID in the header comment
  /*   Name: Jane-Joe
  *   Bronco ID: 12345678
  *   Sources of Help: Jon Doe helped me with…………
  */

Your output should look exactly like this.

HW4: Student Grades

Minimum grade of the class population is xx.
Maximum grade of the class population is xx.
The class average is xx.xx
The median of the class is xx.
The mode of the class is xx.

Due: November 09, 2016 by 4.00 PM. submit your source.cpp file to Blackboard.

Total Points = 100 + 5 Bonus Points

- Correctness/Robustness: 60 points
- Code complies to requirements: 20 points
- Good coding style: 20 points