

Assignment 2

Due Date: Apr.21.2020

1. Given an array of 20 grades,

```
const int grades[] = { 96, 0, 77, 82, 87, 8, 40, 20, 80, 43, 91, 18, 26, 15, 17, 83,
58, 55, 14, 85};
```

- Write two functions to sort the array (insertion sort, selection sort). Prototypes can be as:

```
void insertionSort(const int grades[], int result[], int SIZE);
```

```
void selectionSort(const int grades[], int result[], int SIZE);
```

- Write three functions to calculate the mean, median, variance of the array. Prototypes can be as;

```
int median(const int grades[], int SIZE);
```

```
double mean (const int grades[],int SIZE);
```

```
double variance(const int grades[],int SIZE);
```

- Write a function to display the array. Prototype of the function can be as;

```
void displayArray(const int grades[], int SIZE);
```

- Write a test file to see the results of these functions. Code lines can be as

```
...
```

```
const int grades[] = ...
```

```
int result1[SIZE] = {0};
```

```
int result2[SIZE] = {0};
```

```
insertionSort(grades, result1, SIZE);
```

```
displayArray(result1, SIZE);
```

```
selectionSort(grades, result2, SIZE);
```

```
displayArray(result2, SIZE);
```

```
cout << "median is: " << setw(5) << setprecision(2) << median(grades, SIZE) << endl;
```

```
cout << "mean is: " << setw(5) << setprecision(2) << mean(grades, SIZE) << endl;
```

```
cout << "variance is: " << setw(5) << setprecision(2) << variance(grades, SIZE) << endl;
```

- Submit your .cpp code, and single screen image for a run in one zipped folder.
- A suitable name for the folder can be KOM3550_YourName_YourNumber_Assignment2.{zip/rar}. Write a relevant title for the email you are sending. KOM3550_YourName_YourNumber_Assignment2 is a good option.

“No other e-mails will be even opened”.

Dr. Muharrem Mercimek

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- The due date is firm and it is the midnight just before the next class. The files should be submitted by the end of the due date.
 - Submit your documents via e-mail to programming.kom@gmail.com