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**BST-BCS-11a :** Algorithms and Data Structures

**Prepared by :** Prof. Dr. Hasan DAĞ

**Date :** 01.11.2022

**Time (Start/End)** : 9:00 am /11:30 am (Both in Berlin time)

(I will check the e-mail time for the Quiz ending,11:30)

**Exam Type :** Quiz 2

**Name, last name :**

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**Question.** Write a C program that generates 1000 random numbers between 1 and 49 inclusive and stores them into an array first. Then have 3 functions, which accepts the array as argument and perform the followings:

1. Find the minimum value of all numbers,
2. Find the maximum value of all numbers, and
3. Find the average of all numbers

Once all the computations re done then; print min, max, and the average of numbers. Additionally, measure the time in milliseconds or microseconds for the average computation (Hint: Use time.h header file).

**#include** <stdio.h>

**#include** <stdlib.h>

**#include** “**nameLastnameLibary4Quiz2.h**”

// This is the file that contains all functions in your main program

int main(int argc, char \*argv[]){

// define an array to hold 1000 numbers

………… // one statement only

// call number generator to fii the array with 1000 numbers between 1 and 54

………… // one function call only

// find the min of the numbers

………… // one function call only

// find the max of the numbers

………… // one function

// start the clock to record the begining time

// compute the average of numbers

………… // one function call only

// stopt the clock to record the ending time

// Compute the time elapsed between the two clock times

//Display the results

return 0; // successful ending of the program

}// end of main function

***Notes***

1. *You need to mail (to*  [hasan.dag.extern@srh.de](mailto:hasan.dag.extern@srh.de)*) both your library file and main file named separately as* ***yourNameLastnameLibrary4Quiz2.h*** *and* ***yourNameLastName\_Quiz2.c***