

CSE 102 –ComputerProgramming

HW 02

Last Submission Date: March 16, 2018 –23:30

Prepare your homework 02 without using array. If you use, the grade will be zero.

1. (50 Points)

Write a C program that takes the number of the students from keyboard between 3 and 50. After taking a number of the students, you must generate a random grade for each student (the number of the grades is equal to the number of the students). The grade is between 0 and 100. After the grades are generated, the program displays a menu which is shown below. The menu consist of 5 options:

- I. Show most successful student,
- II. Show most unsuccessful student,
- III. List the number of students for each letter grade,
- IV. Show calculated average grade
- V. Show all four options data.

Options should give same results as in the figures and letter grades must be calculated programmatically according to grade scale which shown in table below. The program won't close or restart after any option selection until user **enter -1 on menu selection**. Also, the menu is shown after every selection.

Note: You must use switch cases to construct the menu. Use rand(void) function to create random grades. Take as "srand(40) ;".

Grade	Letter Grade
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

```

Enter student count:2

Not in Range!!!
Enter student count:51

Not in Range!!!
Enter student count:34

13 26 89 29 42 31 62 85 62 25
56 66 71 22 59 83 65 45 38 42
25 24 74 11 19 91 28 98 97 94
15 63 73 94
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Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data

Make Selection: 0

False Selection!!!

Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data

Make Selection: 1

Most Successfully student:
Index 28:
Score 98:
Letter grade: A

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Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data

Make Selection: 2

Most Unsuccessfully student:
Index :24
Score :11
Letter grade: F

```

Student Score Calculator Menu for 34 Student

- 1) Most Successful Student
- 2) Most Unsuccessful Student
- 3) Letter Grade Statistics
- 4) Calculate Average
- 5) Show all Data

Make Selection: 3

5 student got letter grade 'A'
3 student got letter grade 'B'
3 student got letter grade 'C'
5 student got letter grade 'D'
18 student got letter grade 'F'

Student Score Calculator Menu for 34 Student

- 1) Most Successful Student
- 2) Most Unsuccessful Student
- 3) Letter Grade Statistics
- 4) Calculate Average
- 5) Show all Data

Make Selection: 4

The avarage Score of 34 Student is 53.44

Student Score Calculator Menu for 34 Student

- 1) Most Successful Student
- 2) Most Unsuccessful Student
- 3) Letter Grade Statistics
- 4) Calculate Average
- 5) Show all Data

Make Selection: 5

Most Successfully student:

Index 28:

Score 98:

Letter grade: A

Most Unsuccessfully student:

Index :24

Score :11

Letter grade: F

5 student got letter grade 'A'
3 student got letter grade 'B'
3 student got letter grade 'C'
5 student got letter grade 'D'
18 student got letter grade 'F'

The avarage Score of 34 Student is 53.44

2. (50Points)

Write a C program to find all digits of a number which is entered from the keyboard (the number must be between 23 and 98760). The program screen is shown in below. Do not use `#include <stdlib.h>`.

You can only use `#include` .

If you use other library header files, your grade will be zero.

Enter the number: 79045

The fifth digit is 7

The fourth digit is 9

The third digit is 0

The second digit is 4

The first digit is 5

General:

1. Obey honor code principles.
2. **Read your homework carefully** and follow the directives about the I/O format (data file names, file formats, etc.) and submission format **strictly**. Violating any of these directives will be penalized.
3. Obey coding convention.
4. Your submission is HW02_studentnumber.zip and include the following files and NOTHING MORE (no data files, object files, etc):
 - HW02part1.c
 - HW02_<student_name>_<studentSurname>_<student number>_part2.c
 - HW02_<student_name>_<studentSurname>_<student number>.pdf (includes some programming screens and any details of part 1 and part 2, separately).
5. Do not use non-English characters in any part of your homework (in body, file name, etc.).
6. Deliver the print out of your work until the last submission date.
7. For questions about homework, you can send an email to b.koca@gtu.com.tr