



The Hashemite university
Department of Allied Engineering Sciences
Computer Programming
(110400102)

Sunday: 17/11/2019

Homework: Arrays

Submission instructions

- Due date: 1/12/2019.
- This is an individual homework, so every student must submit his/her own solution via Moodle.
- Add your full name, ID, and serial number as comments at the beginning of the submitted file.
- Students who submit code files that contain compilation errors will get **ZERO**.
- Students who submit a cheated copy of the code will get **ZERO**.
- Attach two files: your C++ source code file (.cpp) and a document file contains THREE sample runs of your program.

Problem Statement

A computer programming class has 10 registered students, each of them has a full name (first and last names), ID, and his score in this course.

In this homework you are asked to write a program that does the following:

- 1- Students' full names must be initialized as given below:
{ "Khalil Yousef", "Mohammad Khalid", "Suhib Mohd", "John Jamal", "Hamzeh Nabeel", "Nadeen Rafat", "Fadi Ali", "Ruba Omar", "Baraa Hasan", "Ahmad Tamer" }
- 2- Set Students' IDs to integer serial numbers starting from 2017401.
- 3- Set Students' scores to integer values generated randomly and ranged between 50 and 95.
- 4- Display all student's information (Name, ID, and score) in a well-formatted table. (use setw(x) function)
- 5- Display the information (Name, ID, and score) of the student who get the maximum score.
- 6- Search for a student by his ID (Read the ID from the user). If the student whose ID inserted by the user found, print his name initials, ID and score. Otherwise, display an appropriate message.

Note: Name initials are the first characters of both the first name and the last name. e.g. initials for "Ahmad Yousuf" are "A.Y"

- 7- Search for students by grade. Read a character value that represents the grade from the user. Then, find and print the information of all students whose grade equals the value inserted by the user.

Note: Use the following equation to find the grade values.

$$grade = \begin{cases} A, & score \geq 90 \\ B, & 80 \leq score < 90 \\ C, & 70 \leq score < 80 \\ D, & 60 \leq score < 70 \\ F, & score < 60 \end{cases}$$

- ⇒ To solve this homework, use the following three one-dimensional parallel arrays.
- 1- An array of strings to store students' full names
 - 2- An array of integers to store students' IDs.
 - 3- An array of integers to store students' scores in computer programming course.

Good Luck