
# Assessment Individual 1

NUR SYUHAIDAH BINTI ISMAIL [CB13006]

Section [01B]

**BCS2313 ARTIFICIAL INTELLIGENCE TECHNIQUES 2013/2014/2**

| | | | | |
|---|---|---|---|---|
| Universiti Malaysia PAHANG | **COURSE: Artificial Intelligence Techniques** | | | **MARKS**: /100 |
| | **TOPIC: Lab Introduction** | | **CODE: BCS 2313** | |
| | **ASSESSMENT: Individual** | **NO: 1** | **DURATION: 2 Hours** | |

**Instruction:**

*This is an individual task – programming*

| Name | Matric No | Gender | DOB | Semester | CGPA |
|---|---|---|---|---|---|
| Aariz Hassan | 81004 | Male | 08.08.2011 | 6 | 4.00 |
| Michel Jordan | 37098 | Male | 01.12.1978 | 1 | 2.31 |
| Roger Federer | 44089 | Male | 24.08.1981 | 4 | 3.87 |
| Maria Sharapova | 65021 | Female | 30.17.1984 | 2 | 1.51 |
| Andy Murray | 28374 | Male | 01.02.2008 | 3 | 3.00 |
| Venus William | 98734 | Female | 16.11.2003 | 8 | 2.99 |

Table 1: Student's data

1. Use either *file* or *database* to store the student's data from Table 1.
2. Read the data from the file or database that you have created and copy the data into array.
3. From the array, sort the student's data by CGPA – descending.
4. Show the array content before and after sorted.
5. Calculate average CGPA and show it.
6. Submission date : **Next lab session**
    a. Flow chart of your system – hard copy
    b. Complete system (Java programming) – hard copy
    c. Submit to Moodle item ***6(b)***.

## SOURCE CODE

Assessment1.java

```
1  // NUR SYUHAIDAH BINTI ISMAIL
2  // CB13006  01B
3  // 28 March 2014
4
5  package assessment1;
6
7  import java.io.*;
8  import java.util.Scanner;
9
10 public class Assessment1{
11
12     public static void main(String[] args) throws FileNotFoundException {
13        // Declaration for the Array name,gender,matric,date,semester and cgpa
14         String[] name = new String[9999];
15         String[] gender = new String[9999];
16         int [] matric = new int[9999];
17         String [] date = new String[9999];
18         int [] semester = new int[9999];
19         double [] cgpa = new double [9999];
20         String tempName,tempGender,tempDate;
21         int tempMatric,tempSemester ;
22         double tempCgpa;
23
24
25         // i is used to calculate the amount of data/rows
26         int i = 0;
27         File file1= new File("Data.txt");
```

Assessment1.java

```
28          Scanner inFile= new Scanner(file1);
29          System.out.println("*********The Data from file without sorting****************");
30        while(inFile.hasNextLine())
31         {
32            name[i]= inFile.next();
33            matric [i] = Integer.parseInt(inFile.next());
34            gender[i] = inFile.next();
35            date[i]= inFile.next();
36            semester[i] = Integer.parseInt(inFile.next());
37            cgpa[i] = Double.parseDouble(inFile.next());
38            System.out.println(name[i] + ", " + matric[i] + ", " + gender[i] + ", " + date[i] +
                    ", " + semester[i] + ", " + cgpa[i]);
40            i= i + 1;
41         }
42            //Sorting for the CGPA and rearrange for the array (Insertion Sort)
43            for(int j=1;j<i;j++){
44            int p=0;
45            while (cgpa[j]<cgpa[p]){
46             p = p + 1;
47            }
48              tempCgpa = cgpa[j];
49              tempName= name[j];
50              tempGender= gender[j];
51              tempDate=date[j];
52              tempMatric=matric[j];
53              tempSemester=semester[j];
54
```

Assessment1.java

```
56                  for(int k=0;k<=j-p-1;k++){
57                    cgpa[j-k]=cgpa[j-k-1];
58                    name[j-k]=name[j-k-1];
59                    gender[j-k]=gender[j-k-1];
60                    date[j-k]=date[j-k-1];
61                    matric[j-k]=matric[j-k-1];
62                    semester[j-k]=semester[j-k-1];
63                    }
64                    cgpa[p] = tempCgpa;
65                    name[p] = tempName;
66                    gender[p] = tempGender;
67                    date[p] = tempDate;
68                    matric[p] = tempMatric;
69                    semester[p] = tempSemester;
70                   }
71    System.out.println("\n ***************This is the List after insert sort************\n");
72
73    //  Diplaying the array content after sorted and calculat CGPA
74    double Total=0;
75    for(int count = 0 ; count<i;count ++){
76         System.out.println(name[count] + ", " + matric[count] + ", " + gender[count] + ", "
                  + "" + date[count] + ", " + semester[count] + ", " + cgpa[count]);
78         Total=Total+cgpa[count];
79              }
80        System.out.println("\nThe average CGPA is "+ Total);
81        }
82    }
```

## RESULT

Output - Assessment1 (run)

```
run:
*********The Data from file without sorting***************
Aariz_Hassan, 81004, Male, 08.08.2011, 6, 4.0
Michel_Jordan, 37098, Male, 01.12.1978, 1, 2.31
Roger_Federer, 44089, Male, 24.08.1981, 4, 3.87
Maria_Sharapova, 65021, Female, 30.17.1984, 2, 1.51
Andy_Murray, 28374, Male, 01.02.2008, 3, 3.0
Venus_William, 98734, Female, 16.11.2003, 8, 2.99

 ***************This is the List after insert sort************

Aariz_Hassan, 81004, Male, 08.08.2011, 6, 4.0
Roger_Federer, 44089, Male, 24.08.1981, 4, 3.87
Andy_Murray, 28374, Male, 01.02.2008, 3, 3.0
Venus_William, 98734, Female, 16.11.2003, 8, 2.99
Michel_Jordan, 37098, Male, 01.12.1978, 1, 2.31
Maria_Sharapova, 65021, Female, 30.17.1984, 2, 1.51

The average CGPA is 17.680000000000003
BUILD SUCCESSFUL (total time: 0 seconds)
```