**Test Preparation**

Lecturers from campus have been looking for a solution to evaluate their classes and the marks received in various assessments. I have provided below a table containing information for a group of students and some assessments during a semester.

Along with the information provided, I require that you calculate some extra information, so that decisions can be made by a lecturer in their understanding of the data they have in front of them.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **strAssessments** | |  |  |  |  |
|  |  |  | Test 1 | Test 2 | Test 3 | Assignment |  |  |
|  | **strStudents** | | *0* | *1* | *2* | *3* |  | dblFinalMark |
| *0* | John |  | 11 | 94 | 37 | 99 |  |  |
| *1* | Jake |  | 42 | 27 | 53 | 65 |  |  |
| *2* | Jennifer |  | 27 | 40 | 35 | 48 |  |  |
| *3* | Joe |  | 21 | 0 | 8 | 53 |  |  |
| *4* | Jackie |  | 82 | 92 | 67 | 22 |  |  |
| *5* | Jessica |  | 77 | 66 | 50 | 78 |  |  |
| *6* | Jordan |  | 23 | 41 | 33 | 20 |  |  |
| *7* | Jeff |  | 76 | 20 | 66 | 42 |  |  |
| *8* | James |  | 3 | 19 | 48 | 1 |  |  |
| *9* | Jacob |  | 74 | 50 | 55 | 21 |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  | **dblAvgAssessment** | |  |  |  |  |

Create the following arrays:

**Variable Name Type Size Description**

strStudents 1D x 10 Student Names

strAssessments 1D x 4 Names of the assessments

intMarks 2D 10 x 4 Containing the marks for each test (all in percent) for all the

students

dblFinalMark 1D x 10 Store the final marks based on a calculation

dblAvgAssessment 1D x 4 Store the average of each test

Create a program named TestPrep12018 and create the following methods that will be called in the *main method*:

***All variables need to be declared globally so that all methods have access to them.***

**In a method named loadArrays, do the following:**

Load the values into the following arrays; strStudents, strAssessments and intMarks.

**In a method named CalcFinalMark, do the following:**

Calculate the final mark for each student by adding the following values:

*10% of Test 1, 20% of Test 2, 50% of Test 3 and 20% of the Assignment mark.*

Store the added value into the array named dblFinalMark.

Display the final mark for each student along with the student name.

**In a method named CalcAvgAssess, do the following:**

Calculate the average mark for each assessment and store the mark in an array named dblAvgAssessment.

Display the average for each assessment along with each assessment name.

**In a method named DisplayAboveAverage, do the following:**

Using the values calculated and stored in the dblAvgAssessment array, print a listing of each student whose mark is above the average mark for each assessment.

**In a method named DisplayHighLow, do the following:**

Display the student who got the highest and lowest mark for each assessment.

Display the student who got the highest and lower final mark.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **strAssessments** | |  |  |  |
|  |  |  | Test 1 | Test 2 | Test 3 |  |  |
|  | **strStudents** |  | *0* | *1* | *2* |  | dblFinalMark |
| *0* | John |  | 1 | 2 | 3 |  |  |
| *1* | Jake |  | 4 | 5 | 6 |  |  |
| *2* | Jennifer |  | 7 | 8 | 9 |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  | **dblAvgAssessment** | |  |  |  |

In class, I spoke of the same example using the above mentioned data

You can try out the same questions using this version of the data as well.

Only change is the calculation of the final mark:

30% of Test 1, 30% of Test 2 and 40% of Test 3