

Activities

Question 1

Write a program that compute the rate of call by user of mobile phone:

Country and Country Code	Rate per minutes
Indonesia (N)	RM0.60 (0 < minutes <=60 minutes) RM0.50 (60 < minutes <= 90 minutes) RM0.40 (more than 90 minutes) Eg. If total minutes is 70 minutes Total: (70 minutes * rate according to range of 60 < minutes <= 90 minutes) or (70 * 0.50)
Singapore (S)	RM0.60 (one rate only) Discount of 5% on total charge if total minutes exceeded 60 minutes

The program shall prompt the user for the country code (N or S). Follow by the total minutes of the phone call.

Sample code:

Please enter country code:

N

Please time on the call (in minutes): 50

Total charge: RM25.00

Question 2

Declare and initialize an array (Name: arr1) with the following values: 23, 11, 15, 8, 200, 7, 88, 65. Declare another array of integer type of size 8 (Name: arr2). Prompt user to enter values into arr2. (10 marks)

Implement a method (Name: Reverse), that shall accept **ONE (1)** int array as parameter. The method shall display the reverse order of the array passed into the method. Kindly test the method with arr1 and display your answer accordingly. (10 marks)

Implement a method (Name: isEven), that shall accept **ONE (1)** integer value as parameter. The method shall check whether the integer pass to the method is an even value. If it is an even integer then it shall return a true value and it shall return a false value if it is a odd value. In the main program you are expected to use the isEven method to determine the number of even integer elements in the array. Kindly test the method with arr2 (you are expected to pass the integer element one by one) and display your answer accordingly.

Implement a method (Name: CompareArr) that shall accept **TWO (2)** int arrays as parameters. The method shall compare the contents of the arrays elements (both array parameter 1 and array parameter 2). The comparison shall check whether both arrays has the same elements in the same order. If both the arrays are the same then it shall return a true value and if it is otherwise then it will return a false value. Kindly test method with arr1 and arr2 and display your answer accordingly.

Question 3:

Implement a program with the following Class structure and details:

- Class name Student with the following data.

studentID (Student ID)

name (Student Name) ,

intakeYear (the year the student enter the programme)

english (To denote English subject marks)

math (To denote Mathematics subject marks)

chemistry (To denote Chemistry subject marks)

biology (To denote the Biology subject marks)

history (To denote the History subject marks)

You need to implement the above data as private and you need to decide the suitable type.

- Implement the default constructors and overloaded constructors for setting four data.
- Implement all the accessor and mutator methods
- Implement a Enter_marks method that shall prompt user to enter the individual marks of English, Mathematics, Chemistry, Biology and History
- Implement a Display_Grade method that is able to display the individual grade of the subjects based on the following

Marks	Grade
80 – 100	A
60 – 79	B
50 – 59	C
0 – 49	D

- Implement Calculate_Average method that shall be able to calculate the average of marks obtained by the student.

Question 4

With the attached Employee.csv (EmployeeName,ID ,Salary,DateJoined). EmployeeName is for Employee Name in string, ID the id of the employee in string, Salary of the employee in double and Datejoined to denote the employee joining date in string.

- With reference to the above data, create an Employee class and shall contain EmployeeName, ID, Salary and DateJoined. The class shall contain all the necessary setter and getter implementations.
- Create List collection for the Employee class objects. You are expected to use:
`var empList = new List<Employee>();`
- You are expected to open the Employee.csv file and read the content of the line by line. Data part of the file is representing data of the employee in terms of name, id, salary and date joined. You are expected to extract the data from the commas and store values into individual object created using the Employee class. Then add the object to empList. If the Employee class has 10 lines of Employee data then the empList.count shall be 10 because to objects in the list.
- You are then expected to use LINQ to generate a list of employee objects sorted according to their names in ascending order. Display your outcome accordingly.
- You are then expected to use LINQ to generate a list employee who had joined the company before year 2003 (Hint: you are expected to extract the year value from 12/3/2001 using substring and LastIndexOf.
- You are expected to use LINQ to generate a list of employee who had high salary which is above 5000.00. Display the outcome accordingly.
- You are required to add two more set of data into Employee.csv: (10 marks)
"Lim Ping Seow,B3345,4500,12/12/2004"
"Miko Lam,B5534,2500,1/3/2018"

You are expected to submit a Zip File (Named your zip according to your name) Example DavidLee.zip). In the Zip file you are expected to include the solution for the all questions (Question1, Question 2, Question 3 and Question 4). The solutions shall be submitted separately according to questions and the naming convention shall be "Q1.txt" or "Q1.cs".

Submission Link:

<https://forms.gle/FqEqkJHrnmBmTPA5A>

(or [Click Here](#))