ARRAYS EXAMPLE PROGRAMS

Q1) Write a c# program that will use arrays to find the total expense of a week. By using switch statement, it will also provide user the following options:

1) Find the total expense
2) Find the average expense
3) Find max expense.
4) Find min expense
5) Search the expense of a particular day.
6) Display the entire week's expense.

Q2) Write a c# program that will use 2 single dimension arrays to store the name and price of products purchased by a customer from a super mart. After storing purchased products, the application will calculate the total amount and provide discount on the bases of following rules:

If totalAmount >= 10000 and totalAmount < 20000 ➔ discount = 2%
If totalAmount > 20000 ➔ discount = 3%

The application should display the entire bill of the purchased products and also print the provided discount.

Q3) By using arrays write a c# program that will take course title and midterm marks from the user. The program will print a message related to student's progress as if the average marks are greater or equal to 18 then display "good progress", if less than 18 and greater than 15 display "Moderate progress", if less than 15 and greater than 12 display "Need Improvement" and if average marks are less than 12 display "Bad progress". The user should be able to check following information:

1) Find the total marks
2) Find the average marks
3) Find max marks.
4) Find min marks
5) Search the marks of the individual course using course title.
6) Display the entire transcript.

Q4) By using two dimension array, store and display the result of students as displayed in the following table

	Physics	Chemistry	Mathematics
Julia	45	60	90
Ben	20	67	92
Nicholas	90	35	56
Demi	78	50	80

The program should also calculate the percentage of each student and the average marks in each course.

Q5) By using array, calculate the standard deviation with the help of following formulae;

$$\text{Standard deviation} \quad \sigma = \sqrt{\frac{\sum_{i=1}^{N} (x_i - \mu)^2}{N}}$$

Q6) By using multiple single dimension arrays, calculate the semester GPA of a student with the help of following formulae.

1) *Gpa = totalGradePointsProduct / totalCreditHours.*
2) *totalGradePointsProduct = ∑gradePointProduct*
3) *totalCreditHours = ∑creditHours*
4) *gradePointProduct = gradePoint * creditHours*

Calculate gradePoint and grade with the help of Bahria's grading system and display the entire transcript.