An array stores the details of books (title, quantity and reorder level) in a book store. Write a C program to create such an array and store the details of 5 books. Using the stored details, calculate the following.

a) Total number of books in the store.
b) The title of the books to be ordered (i.e. quantity is less than reorder level)
c) Title of the book with highest quantity.
d) Title of the book with lowest quantity.

Use a structure to create your array. Use suitable data types for members of the structure.

➢ Get inputs from the keyboard

A 4 x 4 square display panel consists of LED bulbs of red, green and blue colours. Write a C program to create a character array to represent the LED panel as shown below.

Column = 0

Row= 0
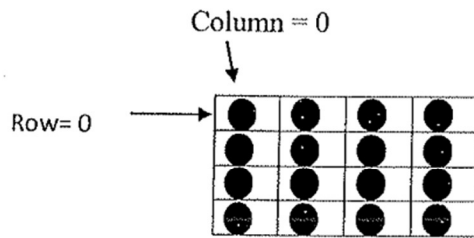
Enter the color of the LED bulbs ('R', 'G' or 'B') of the panel from the keyboard. Display the colours of the LED display.
Go through the array and display the position (row and column) of the "Red" bulbs.

Sample output is given below
```
R    R    G    B
G    G    G    B
R    G    B    B
B    B    B    G
```

Red LED bulb positions
[0,0] [0,1] [2,0]

Save your program as Save your program as 1AJune2b.c

Exercise 3

Write a C program to declare an integer array called **arr1** with 3 rows and 3 columns. Read 12 numbers from the keyboard and store in the array. Find the transpose of the arr1 and store the result in **arr2.**

1	2	3
4	5	6
7	8	9

arr1

1	4	7
2	5	8
3	6	9

arr2

Part 2

A 2D array is used to store the details of the rating of 3 movies given by 4 reviewers. Some sample data is shown below.

		Reviewers			
		1			
	1	4	6	2	5
Movies	2	7	9	4	8
	3	6	9	3	7

Write a C program to do the following.
   a) Declare an array called **ratings** to store the details of the rating of 3 movies given by 4 reviewers.
   b) Read the movie ratings from the key board and store the data in the array.
   c) Display the array in tabular format.
   d) For each movie display the movie number and the average rating.
   e) Find and display the movie which received highest average rating.

Save your program as 1AQ2b.c

(f)   Write the main method of a C++ program to define a 2D square matrix size 5 x 5, initialize and print total, average, max and min values per column.

Example
1   2   3 4 5
2   3   4 5 6
3   4   5 6 7
4   5   6 7 8
11 12 2 3 17

<u>Column 1</u>
Total =21
Average = 4.2
Max = 11
Min =1   (4 marks)