**Exercise 1 [Expand Array]:** Write a function that creates a pointer myArrayPtr to save 10 integers on heap. The program keeps taking input in array from user until user enters -1. Whenever the array is full, the program doubles the size of array, allocates new space, copies previous array’s elements in new array, points myArrayPtr to new array and again starts taking input using myArrayPtr.

**Exercise 2 [Compress array]:** Write a program that takes an array of integers and removes consecutive occurrences of same number from the list.

Sample Run:

|  |
| --- |
| Array Before Compression: 1,1,2,2,2,3,4,5,5,5,5,5,7,7,7,2  Array After Compression: 1,2,3,4,5,7,2 |

**Exercise 3 [Merge Arrays]:** Write a program that takes two sorted arrays and merges the arrays in sorted order. You are not allowed to use any sorting algorithm.

|  |
| --- |
| Array 1: 2,5,9,  Array 2: 1,2,3,6  Merged Array: 1,2,2,3,5,6,9 |

**Exercise 4 [Merge Array]:** Write a program that takes two sorted arrays, one in ascending order the other one in descending order, and merge the arrays in ascending order without using any sorting algorithm.

|  |
| --- |
| Array 1: 2,5,9  Array 2: 6,3,2,1  Merged Array: 1,2,2,3,5,6,9 |