Lab Sheet-4 Array

1. Implement Merge Sort (recursive) in Java.
2. Create a class MyArray in Java.
   Give size and a 1D array of type integer as data members of the class.
   Write member function to
   - store an integer to a specific index. Check whether the index is valid before storing the integer.
   - Delete an integer from a specific index. Shift the elements to left once to avoid the gap created due to deletion.
   - Traverse and print the elements.
   - Sort the numbers in the array.
   - Return the length of the array.
3. Create a class MyMatrix to represent an n*m matrix. Give no.of rows, columns and an integer 2D array as data members.
   Write member functions to
   - find sum of two matrices.
   - Find product of two matrices.
   - Find transpose of a matrix
   - Check whether a matrix is identity matrix
   - Check whether matrix is symmetric

4. Implement Stack data structure using an array.