# Lab Assignment 6

1. Write a program that reads in 10 integers from the user and stores them in an array. Find the largest value in the array and print it.
2. Modify the last program to use a preprocessor constant for the size of the array and in the test condition of the loop which processes the array.
3. Modify the last program to find the mean of n numbers using arrays.
4. Write a program to interchange the largest and the smallest number in the array.
5. Write a program to find the second biggest number using an array of n numbers.
6. Write a program to find whether the array of integers contains a duplicate number. If it's there print the position of duplicate numbers.
7. Write a program that can store 10 integers in an array. Fill the array with "random" numbers using the library functions rand() instead of reading them from the user. Find the largest element in the array and print it out.
   Each time rand() is called it returns a "random" integer. Use the mod operator ( % ) to get a value in the desired range. For example:

   ```
   int result; result = rand()
   % 1000;
   ```

   will assign a random value in the range 0 – 999 to the variable result. Make sure your program contains the line:

   ```
   #include <stdlib.h>
   ```

   to include information about the rand() function.

8. Modify the last program so that instead of finding the largest element in the array, the program sorts the elements of the array into ascending order.
9. Write a program to find out whether a particular element is in the integer array using Linear search.
10. Write a program to find out whether a particular element is in the integer array using Binary search.
11. Write a program to sort an array of elements using Bubble sort.
12. Write a program to sort an array of elements using Selection sort.
13. Read a value k from the user and using k left rotation and right rotation depending on the user choice Left or Right, print the rotated value. [Use function for the rotations]
14. Read an array of size n and a variable k from the user. find all the pairs of elements in the array which yields a sum as k.