DATA STRUCTURE AND PROGRAM DESIGN LAB – 01B

1B. Write a program to implement a Binary Search algorithm. Write a search function which takes a SearchList as its first parameter and a Comparable as its second. If either parameter is null, or if the SearchList is empty, you should return NULL. implement the following algorithm:
• Examine the value in the middle of the current array and print it.
• If the midpoint value is the value that we are looking for, return true
• If the value that we are looking for is greater than the midpoint value, adjust the current array to start at the midpoint and print the index.
• if the value that we are looking for is less than the midpoint value, adjust the current array to end at the midpoint and print the index.
• Continue until you find the value, or until the start reaches the end,

SAMPLE OUTPUT:

```
Enter how many numbers: 5
Enter elements (sorted in ascending order):
12
43
65
34
54
Enter the value to search: 65
Middle value examined: 65
Value found at index 2.
```