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 number of elements: 5
Enter 5 sorted numbers:
85
95
80
65
811
Enter value to search: 811
Middle value = 80 at index 2
Value is greater, new start index = 3
Middle value = 65 at index 3
Value is greater, new start index = 4
Middle value = 811 at index 4
Value found at index 4
PS C:\Users\prach\OneDrive\Desktop\DSPD LAB>
```