

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:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\prach\OneDrive\Attachments\Desktop\DSPD LAB> gcc Practical-1B.c
PS C:\Users\prach\OneDrive\Attachments\Desktop\DSPD LAB> ./a.exe
Enter the range of the array: 5
Enter 5 sorted elements of array:
45
65
78
98
12
Enter element to search: 78
first of array is 1
last of array is 5
Mid of array is 3
The array is:
45 65 78 98 12

The element 78 is located at position 3.
```