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Section = BS SE 3-2

Course   = Data Structures and Algorithms

Lab Task 4:

Q no1:

Code & Output:

```cpp
1    #include <iostream>
2    using namespace std;
3    int linearsearch(int arr[], int size, int target)
4    {
5        for (int i = 0; i < size; i++)
6        {
7            if (arr[i] == target)
8            {
9                return i;
10           }
11       }
12       return -1;
13   }
14   int main()
15   {
16   |
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   PORTS   COMMENTS

```
7
Enter the element at index:
23
Enter the element at index:
32
Enter the element at index:
5
Enter the element at index:
62
enter the value to be serach:
23
Element found at index:2
PS C:\Users\mwale\AppData\Local\Temp> 
```

Test Case 2:

```cpp
#include <iostream>
using namespace std;
int linearsearch(int arr[], int size, int target
{
    for (int i = 0; i < size; i++)
    {
        if (arr[i] == target)
        {
            return i;
        }
    }
    return -1;
}
int main()
{

```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   PORTS   COMM

```
1
Enter the element at index:
2
Enter the element at index:
3
Enter the element at index:
4
Enter the element at index:
5
enter the value to be serach:
10
Element not found
PS C:\Users\mwale\AppData\Local\Temp>
```

Q no 2:

Test Case 1:

```
4    {
5        int low = 0;
6        int high = size - 1;
7        while (low <= high)
8        {
9            int mid =(low+high)/2;
10           if (arr[mid] == target)
11           {
12               return mid;
13           }
14           if (arr[mid] > target)
15           {
16               high = mid - 1;
17           }
18           else{
19               low = mid + 1;
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS

```
12
Enter the element at index:
23
Enter the element at index:
38
Enter the element at index:
45
Enter the element at index:
62
enter the value to be serach:
38
Element found at index:4
PS C:\Users\mwale\AppData\Local\Temp>
```

Test Case 2:

```
4   {
5       int low = 0;
6       int high = size - 1;
7       while (low <= high)
8       {
9           int mid =(low+high)/2;
10          if (arr[mid] == target)
11          {
12              return mid;
13          }
14          if (arr[mid] > target)
15          {
16              high = mid - 1;
17          }
18          else{
19              low = mid + 1;
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   COMMENTS

```
Enter the element at index:
12
Enter the element at index:
15
Enter the element at index:

20
Enter the element at index:
33
enter the value to be serach:
10
Element not found
PS C:\Users\mwale\AppData\Local\Temp> ▌
```