

NAME – RAJDEEP JAISWAL

DATE -

BRANCH – BTECH CSE

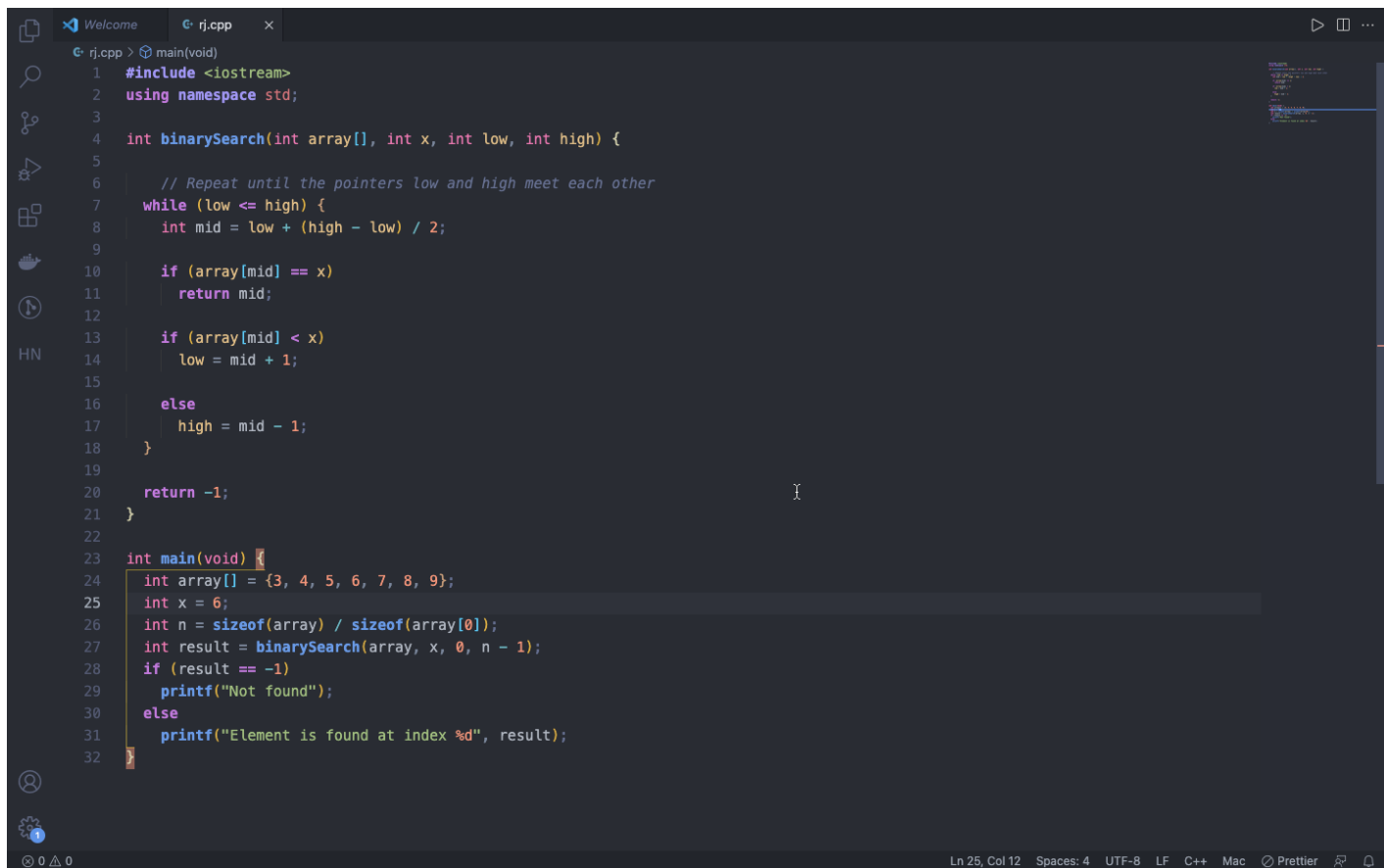
SEC = 13 A

UID -20BCS2761

SUB- DATA STRUCTURE LAB

Write a program to perform binary search

CODE IN COMPILER -



```
1 #include <iostream>
2 using namespace std;
3
4 int binarySearch(int array[], int x, int low, int high) {
5
6     // Repeat until the pointers low and high meet each other
7     while (low <= high) {
8         int mid = low + (high - low) / 2;
9
10        if (array[mid] == x)
11            return mid;
12
13        if (array[mid] < x)
14            low = mid + 1;
15
16        else
17            high = mid - 1;
18    }
19
20    return -1;
21 }
22
23 int main(void) {
24     int array[] = {3, 4, 5, 6, 7, 8, 9};
25     int x = 6;
26     int n = sizeof(array) / sizeof(array[0]);
27     int result = binarySearch(array, x, 0, n - 1);
28     if (result == -1)
29         printf("Not found");
30     else
31         printf("Element is found at index %d", result);
32 }
```

Ln 25, Col 12 Spaces: 4 UTF-8 LF C++ Mac Prettier

## CODE IN TEXT FORM-

```
#include <iostream>
using namespace std;

int binarySearch(int array[], int x, int low, int high) {

    // Repeat until the pointers low and high meet each other
    while (low <= high) {
        int mid = low + (high - low) / 2;

        if (array[mid] == x)
            return mid;

        if (array[mid] < x)
            low = mid + 1;

        else
            high = mid - 1;
    }

    return -1;
}

int main(void) {
    int array[] = {3, 4, 5, 6, 7, 8, 9};
    int x = 6;
    int n = sizeof(array) / sizeof(array[0]);
    int result = binarySearch(array, x, 0, n - 1);
    if (result == -1)
        printf("Not found");
    else
        printf("Element is found at index %d", result);
}
```

## OUTPUT -



```
PROBLEMS OUTPUT TERMINAL  
cd "/Volumes/RAJ 2/CODE/" && g++ rj.cpp -o rj && "/Volumes/RAJ 2/CODE/"rj  
rajdeepjaiswal@Rajdeeps-Air CODE % cd "/Volumes/RAJ 2/CODE/" && g++ rj.cpp -o rj && "/Volumes/RAJ 2/CODE/"rj  
Element is found at index 3  
rajdeepjaiswal@Rajdeeps-Air CODE %
```

Ln 32, Col 2 (634 selected) Spaces: