Binary Recursive in C++

```
#include <iostream>
#include <vector>

using namespace std;

int binsearch(const vector<int>& arr, int low, int high, int x) {
    if (low > high) {
        return -1;
    }
    int mid = (low + high) / 2;
    if (arr[mid] == x) {
        return mid;
    } else if (arr[mid] > x) {
        return binsearch(arr, low, mid - 1, x);
    } else {
        return binsearch(arr, mid + 1, high, x);
    }
}

int main() {
    vector<int> arr = {3, 5, 7, 8, 9, 11, 45, 76};
    int result = binsearch(arr, 0, arr.size() - 1, 11);
    cout << result << endl;
    return 0;
}
```

Here's a **tabular dry run** of the **recursive binary search** code for:

arr = {3, 5, 7, 8, 9, 11, 45, 76}
x = 11

Dry Run Table

Call #	low	high	mid = (low+high)/2	arr[mid]	Comparison	Action
1	0	7	(0+7)/2 = 3	8	8 < 11	Search right → low = mid+1 = 4
2	4	7	(4+7)/2 = 5	11	11 == 11	**Found** → return 5

Output

5

5