LetsUpgrade

Assignment day\_4

Question 1

In the Binary Search algorithm, it is suggested to calculate the mid as

beg + (end - beg) / 2 instead of (beg + end) / 2. Why is it so?

Ans:- In the binary search algorithm the array is divided from the mid part to get the element and

beg + (end - beg)/2 gives the right position for search the element and if the element not find then it will change the value of beg and end element .

that’s why we use beg+(end-beg)/2.

Question 2

Write the algorithm/function for Ternary Search.

Ans:-

int ternarySearch(int l, int r, int key, int ar[])

{

    if (r >= l) {

        int mid1 = l + (r - l) / 3;

        int mid2 = r - (r - l) / 3;

        if (ar[mid1] == key) {

            return mid1;

        }

        if (ar[mid2] == key) {

            return mid2;

        }

        if (key < ar[mid1]) {

        return ternarySearch(l, mid1 - 1, key, ar);

        }

        else if (key > ar[mid2]) {

        return ternarySearch(mid2 + 1, r, key, ar);

        }

        else {

  return ternarySearch(mid1 + 1, mid2 - 1, key, ar);

        }

    }

    return -1;

}