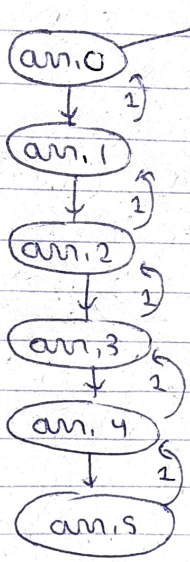
Day - 80

Recursion - 7

* Linear search

0	1	2	3	4	5	6
2	4	7	3	11	8	12

→ arr, X = 8




```
bool linearsearch(int arr[], int X, int index, int N){
    if(index == N)
        return 0;
    if( arr[index] == X)
        return 1;
    return linearsearch(arr, X, index+1, N);
}
```

* Binary search

Date: / /
Page:

0	1	2	3	4	5
3	8	11	15	20	22

→ arr, X = 20

We have given a non-decreasing array.

```
bool BinarySearch(int arr[], int start, int end, int x){
    if(start > end)
        return 0;
    int mid = start + (end - start)/2;
    if(arr[mid] == x)
        return 1;
    else if(arr[mid] < x)
        return BinarySearch(arr, mid+1,
                end, x);
    else
        return BinarySearch(arr, start, mid-1,
                x);
}
```