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ADA-LAB.

Recursive binary search.

```
int bs(top, bottom, arr, k)
{
    int mid = (bottom + top) / 2;
    if (arr[mid] == k)
        return mid;
    else if (arr[mid] > k)
    {
        top = mid;
        return bs(top, bottom, arr, k)
    }
    else
    {
        bottom = mid;
        return bs(top, bottom, arr, k)
    }
}
```

if (top == bottom && arr[mid] != k)

recursive linear search.

```
int ls(c, arr, k, n)
{
    if (c == n)
        return -1;
    if (arr[c] == k)
        return c;
    return ls(c+1, arr, k, n);
}
```

```
int mode(k, arr, n)
{
    int i = 0;
    for (int j = 0; j < n; j++)
        if (arr[j] == k)
            i++;
    return i;
}
```