

Sorting

Arrangement of elements of a container in a defined order based on a property

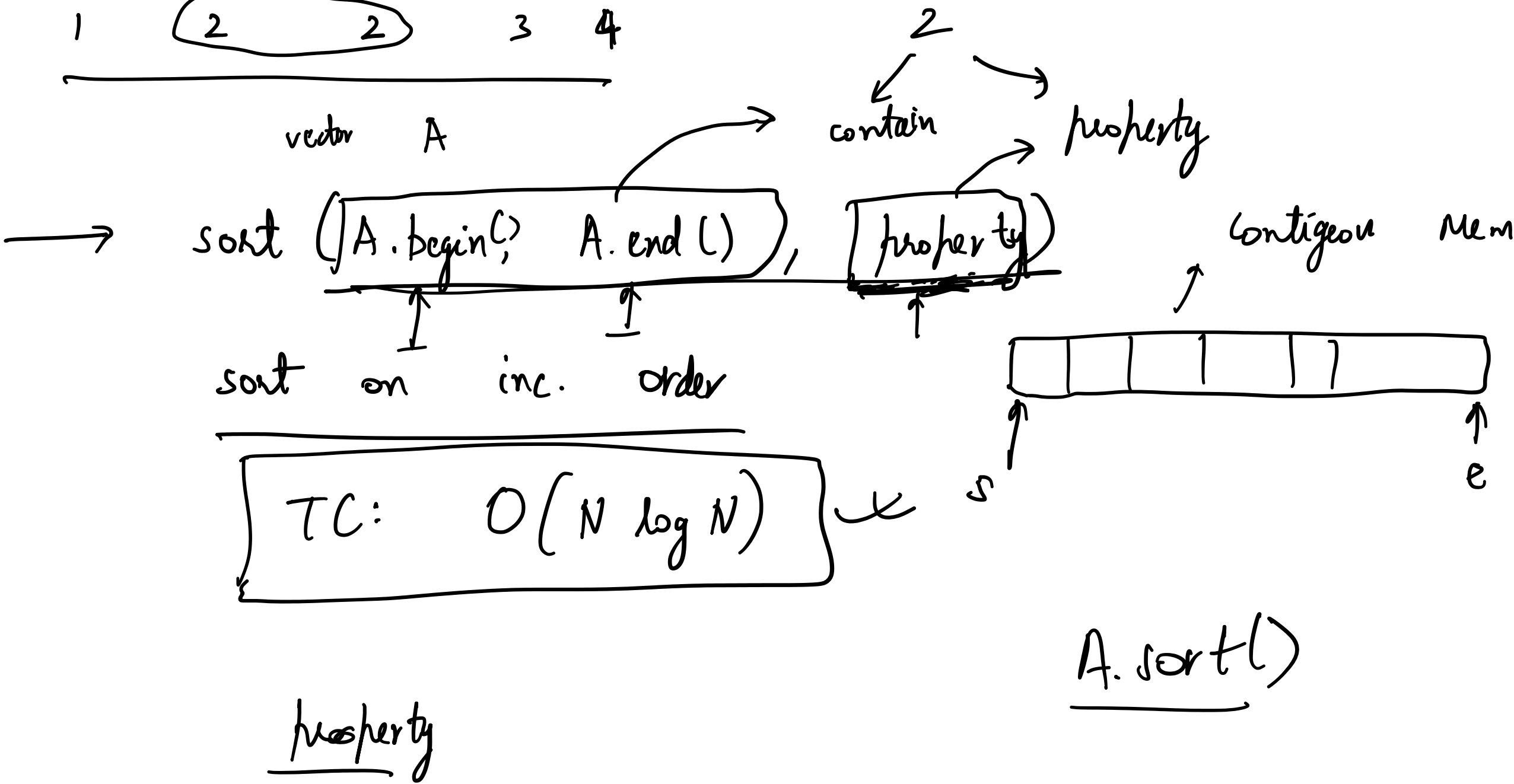
container → Array, AL, LL

property → Inc, Dec, any other

1 3 5 7 11 13 (Inc order)

7 3 2 -1 -5 -11 (Dec order)

1 5 3 9 6 (Factors)
↓ ↓ ↓ ↓ ↓
1 2 2 3 4



$O(N \log N)$

TC: $O(N \log N)$

property ← method (int a, int b)

Rule

a b
return true

b a
return false

```
bool property (int a, int b) { // increasing order
    if (a < b)
        return true;
    else
        return false;
}
```

$O(1)$

```
bool property (int a, int b) { // decreasing order
    if (a < b)
        return false;
    else
        return true;
}
```