What is the big O value of each algorithm?

1. O(1) - constant
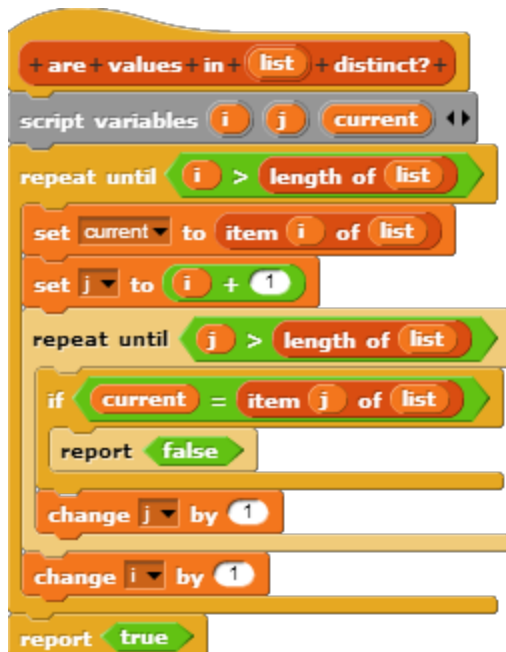
```
+ sum + (x) + (y) +
report (x) + (y)
```

2. O(n) - linear

```
+ average + (list) +
script variables (sum) ▶
for each (item) of (list)
    change (sum▾) by (item)
report (sum) / (length of (list))
```

3. O(n) - linear

```
+ is + (value) + in + (list) +
for each (item) of (list)
    if (value) = (item)
        report (true)
report (false)
```

4. O(n^2) - quadratic

```
+ are + values + in + (list) + distinct? +
script variables (i) (j) (current) ◀▶
repeat until (i) > (length of (list))
    set (current▾) to (item (i) of (list))
    set (j▾) to (i) + 1
    repeat until (j) > (length of (list))
        if (current) = (item (j) of (list))
            report (false)
        change (j▾) by 1
    change (i▾) by 1
report (true)
```

5. O(logn) - logarithmic

```
+ find + the + number + (num) + in + sorted + list + (list ⋮) +
script variables (min) (max) (mid) ◀▶
set (min▾) to 1
set (max▾) to (length of (list))
warp
    repeat until (min) > (max)
        set (mid▾) to (round ((min) + (max)) / 2)
        if (item (mid) of (list)) > (num)
            set (max▾) to (mid) − 1
        else
            if (item (mid) of (list)) < (num)
                set (min▾) to (mid) + 1
            else
                report (mid)
report 0
```