

✓ Congratulations! You passed!

Grade received 100% To pass 80% or higher

[Go to next item](#)

1. Which has the largest time to compute?

1 / 1 point

- ☐ $O(1)$
- ☐ $O(\log n)$
- ☒ $O(N)$



Correct

That's correct! This is known as linear time. As the input increases so does the time to compute an output.

2. Given the following lines of code pseudocode;

1 / 1 point

`N = 7``FOR i = 1 TO N:``output(i)`

- ☒ $O(N)$
- ☐ $O(n^2)$
- ☐ $O(1)$



Correct

That's correct! As the loop is set to the size of N, when N increases so does the time complexity.

3. Given the following lines of code pseudocode;

1 / 1 point

`N = 7``FOR i = 1 TO N:``FOR j = 1 TO N:``output(N)`

- ☒ $O(n^2)$
- ☐ $O(1)$
- ☐ $O(N)$



Correct

That's correct. There are 2 loops so every time the application runs, it must do $N \times N$ executions.

4. Given the following lines of code pseudocode:

1 / 1 point

`N = 37``FOR i = 1 TO N:``j = 1``WHILE j < 10:``output(j*N)``j = j + 1`

- ☒ $O(N)$
- ☐ $O(1)$
- ☐ $O(n^2)$



Correct

That's correct. The inner loop is only run a finite number of times that does not increase with N.

5. Given the following lines of code pseudocode:

1 / 1 point

`N = 10`

```
FOR i = 1 TO 5:
```

```
    FOR j = 1 TO i:
```

```
        output(i*j)
```

☐ $O(\log N)$

☒ $O(1)$

☐ $O(n^2)$



Correct

That's correct. As i is limited to 5. Regardless of how large the input becomes it will always be limited to the number of executions.

6. Given the following lines of code pseudocode:

output(N)

1 / 1 point

```
N = 7
```

```
FOR i = 1 TO N:
```

```
    FOR j = 1 TO N:
```

```
        output(N)
```

☐ $O(N)$

☒ $O(n^2)$

☐ $O(1)$



Correct

That's correct. There are 2 loops so every time the application runs, it must do $N*N$ executions.