

1) What is the time complexity of the following code:

```
int i, j, k = 0;
for (i = n / 2; i <= n; i++) {
    for (j = 2; j <= n; j = j * 2) {
        k = k + n / 2;
    }
}
```

- A.  $O(n)$
- B.  $O(n \log n)$
- C.  $O(n^2)$
- D.  $O(n^2 \log n)$

2) What is the time complexity of the following code:

```
for (int i = 0; i < n; i++)
    for (int j = 0; j < m; j++)
        temp = j
```

- A.  $O(n)$
- B.  $O(m)$
- C.  $O(nm)$
- D.  $O(n+m)$

3) What is the time complexity of the following code:

```
int value = 0;
for (int i = 0; i < n; i++)
    for (int j = 0; j < i; j++)
        value += 1;
```

- A.  $O(N)$
- B.  $O(N/2)$
- C.  $O(N^2)$
- D.  $O(\log N)$

4) Which of the following does NOT belong to the family of notations?

- A. Big  $(O)$
- B. Big  $(\Omega)$
- C. Big  $(\theta)$
- D. Big  $(\infty)$

5) What is the time complexity of the following code:

```
int a = 0, i = N;
while (i > 0) {
    a += i;
    i /= 2;
}
```

# Quiz 4

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}

- A.  $O(N)$
- B.  $O(\text{Sqrt}(N))$
- C.  $O(N / 2)$
- D.  $O(\log N)$

