

**What is the time complexity of this code?**

```
s = 0
for i = 1 to n:
    s += i

for j = 1 to s:
    print(j)
```

**Explanation:**

**ANSWER:  $O(n^2)$**

- The first loop runs  $n$  times i.e  $O(n)$  time complexity.
- The second loop runs from 1 to the sum of numbers from 1 to  $n$ .
- The formula for sum of numbers from 1 to  $n$  is  $(n * (n + 1) / 2) = n^2$ , i.e  $O(n^2)$  time complexity.

**Comparing:  $O(n) < O(n^2)$ , and hence the complexity is  $O(n^2)$ .**