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Section .....

Homework 1: Analyzing Time Complexity (Big O)

Examine the code and count how many times the operations are executed. Then, detail step by step how to determine the Big O notation.

1.

```
def sum_of_squares(n):
    total = 0 1
    i = 1 1
    while i <= n: n+1
        total += i * i 2n
        i += 1 n
    return total 1
```

Operation count:

1+1+(n+1) + 2n+n+1

= 4n+4

Step-by-Step to Find Big O

f(n) = 4n + 4

f(n) = 4n + 4n

f(n) = 8n

f(n) = O(n) , c(8), n₀ =

2.

```
def example1(n):
    i = 0 1                    6n+2
    while i < n: n+1
        j = 0 n
        while j < 1:(1+1)xn 2n
            j += 1 1xn = n
        i += 1 n
```

Operation count:

6n+2

Step-by-Step to Find Big O