Runtime as a function of input size

- Solution: use the size of the input as a way to describe the function runtime
- Previous example runs in time directly/linear proportional to the input size, so we say it runs "like n" (where n is the size of the input)
- An example that runs like n^2:

```
def sumCombinationProducts(n):
    for i in range(n):
        for j in range(n):
            total += i * j
    return total
```

Formalizing "like f(n)"

- Let f(n) be the function of n that our function "runs like"
- Use different notation to indicate whether something runs "like" f(n)
    - O(f(n)): runs in "at most" time proportional to f(n)
    - Ω(f(n)): runs in "at least" time proportional to f(n)
    - Ө(f(n)): runs in both O(f(n)) and Ω(f(n))