

Parker Skinner 1001541467  
CSE 4309-001  
12/13/2021

1. The time complexity of factorial(n) is  $O(n)$
2. 

```
def myfactorial(n):  
    result = 1  
    if n>1:  
        result = n * myfactorial(n-1)  
    return result
```
3. The time complexity of foo(n) is  $O(n^2)$
4.  $([ae+bf],[ce+df])$
5.
  - a.  $f'(x) = 6x+5$
  - b.  $f'(5) = 35$
  - c.  $f''(x) = 6$
  - d.  $f''(5) = 6$
6.
  - a.  $P(A \text{ and } B) = 0.18$
  - b.  $P(A \text{ or } B) = 0.72$
  - c.  $P(\text{not}(A)) = 0.70$
  - d.  $P(A | B) = 0.3$
7.
  - a.  $P(\text{price} < \$75) = 0.6375$
  - b.  $P(\text{price} < \$75 | \text{color}=\text{green}) = 0.6842$
  - c.  $P(\text{price} < \$75, \text{color}=\text{green}) = 0.1625$
8. 100 eggs