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CSE 4309 – Assignment 1

Task 1

Solution: $\Theta(n)$

Task 2

```python
#Python
def factorial(n):
        if (n == 0 or n == 1):
                return 1
        else:
                return (n*factorial(n-1))
```

Task 3

Solution: $\Theta(n^2)$

Task 4

Solution Matrix of type 2x1: $\begin{bmatrix} a*e+b*f \\ c*e+d*f \end{bmatrix}$

Task 5

Part a: f′(x) = 6x + 5
Part b: f′(5) = 35
Part c: f″(x) = 6
Part d: f″(5) = 6

Task 6

P(A, B) = P(A)*P(B|A) = P(A)*P(B) = 0.18
P(A or B) = P(A) + P(B) = 0.9
P(A′) = 1 − P(A) = 0.7
P(A|B) = P(A) = 0.3