

### H3 Task 1

$\Theta(n)$

### H3 Task 2

```
1 def factorial(n):  
2     if n == 0:  
3         return result  
4     else:  
5         return n * factorial(n-1)  
6
```

### H3 Task 3

$\Theta(n^2)$

### H3 Task 4

- 2 rows
- 1 column
- $[ae + bf; ce + df]$

### H3 Task 5

a)  $f'(x) = 6x+5$

b)  $f'(5) = 35$

c)  $f''(x) = 6$

d)  $f''(5) = 6$

### H3 Task 6

$$f'(x) = \cos(5x^2 + 3)(10x)$$

### H3 Task 7

$$f_{x_1} = x_2 + 2$$

$$f_{x_2} = x_1$$

### H3 Task 8

50 eggs.