```
function x = f(n)
    x = 1;
    for i = 1:n
        for j = 1:n
            x = x+1;
```

1. Find the runtime of the algorithm mathematically.

$$T(n) = 1 + \sum_{i=1}^{n+1} 1 + \sum_{i=1}^{n} \sum_{j=1}^{n+1} 1 + \sum_{i=1}^{n} \sum_{j=1}^{n} 1$$

$$T(n) = 1 + (n+1) + (n^2+n) + n^2$$

$$T(n) = 2 + 3n + 3n^2$$