

## Problem 2

```
int f1(int* A) {
```

```
    if (X == 0) {
```

```
        O(1)
```

```
    }
```

```
    else if ((X % (int)sqrt(n)) == 0) {
```

```
        for (int i = 1; i <= n; i++) {
```

```
            for (int j = 0; j < i; j++) {
```

```
                O(1)
```

```
            }
```

```
        }
```

```
    }
```

```
    }
```

```
    }
```

```
    X-- O(1)
```

$(n - \sqrt{n})(O(1))$

$\sqrt{100} = 10$

100

↓  
90  
↓  
80  
↓  
70  
↓  
60  
↓  
50  
↓  
40  
↓  
30  
↓  
20  
↓  
10

49  
↓  
42  
↓  
35  
↓  
28  
↓  
21  
↓  
14  
↓  
7

$$\frac{n^2 n^{1/2} + (n - n^{1/2})}{n}$$

$$= O(n\sqrt{n})$$

$O(n^2) \times \sqrt{n}$