

Ming Lin

# Midterm - Problem #1

I pledge my honor  
that I have abided  
by the Stevens Honor Code

```
for (int j = n; j > 1; j--) { ← run (n-1) times
    for (int i = 1; i < j; i = i * 2) { ←
        System.out.println("Hello")
    }
}
```

$\log_2(n)$

$$T(n) = (n-1 \cdot \log_2(n))$$

$$\text{big-}O \rightarrow O(n \cdot \log(n))$$

outer loop

n	T
2	1 (n-1)
3	2

inner loop

j = n	T
2	1
3	1
4	2