

b. 7^n vs. 12^n

c. $n^{100000000}$ vs. 1.0000001^n

4. For each of the following code snippets, specify the asymptotic complexity using Big-O.

a. -----

```
for(int k = ; k <= n/8; k++) {  
    System.out.println("hi");  
}  
System.out.println("Next");  
for (int p = n; p >= 1; p--) {  
    System.out.println("Bye");  
}
```

b. -----

```
for(int k = 0; k < n - 1; k++) {  
    for (int m = k + 1; m < n; m++) {  
        System.out.println("X");  
    }  
}
```

c. -----

```
for (int i = n - 3; i <= n - 1; i++) {  
    System.out.println("R");  
    for (int k = 1; k <= 1000; k++) {  
        System.out.println("Y");  
    }  
}
```

d. -----

```
for (int i = 0; i < n - 3; i++) {  
    for (int k = 1; k < n; k *= 10) {  
        System.out.println("Q");  
    }  
}
```