

10-21-2016

# Big O Primer

```
printf(...); } d  
printf(...); } d  
printf(...); } d
```

} 3d

on average,  
over the long-term

```
for (int i=0; i < 5; ii++) {
```

```
    printf("..."); } d
```

} 5

```
for (int i=0; i < 5; i++) {
```

```
    for (int j=0; j < 7; j++) {  
        printf("...");  
    }
```

} 35 d

Inside  
printf:  
while(ch != '\0') {  
 }

# Big-O

$O(n) \rightarrow$  For each item of input  
we do something

```
for(int i=0; i<n; i++) {  
    do something  
}
```

$O(n^2) \rightarrow$  For each item....  
For each item....  
do something

$k n^2 - 3n + 5$

$\uparrow$   
ignore  
coefficients

$\uparrow$   
ignore lower  
order terms