

Growth Rate	Name
1	Constant
$\log(n)$	Logarithmic
n	Linear
$n \log(n)$	Linearithmic
n^2	Quadratic
n^3	Cubic
2^n	Exponential

This is kinda abstract let's see what it means in code:

Growth Rate	Name	Code Example	description
1	Constant	<pre>a = b + 1;</pre>	statement (one line of code)
$\log(n)$	Logarithmic	<pre>while(n > 1){ n = n/2; }</pre>	Divide in half (binary search)
n	Linear	<pre>for(c=0; c<n; c++){ a+=1; }</pre>	Loop
$n \log(n)$	Linearithmic	Mergesort, Quicksort, ...	Effective sorting algorithms

n^2

Quadratic

```
for(c=0; c<n; c++){  
  for(i=0; i<n; i++){  
    a+=1;  
  }  
}
```

Double loop

n^3

Cubic

```
for(c=0; c<n; c++){  
  for(i=0; i<n; i++){  
    for(x=0; x<n; x++){  
      a+=1;  
    }  
  }  
}
```

Triple loop

2^n

Exponential

Trying to break a password
generating all possible combinations

Exhaustive search