Amortized = time to

Claim: n^2 + 100n = n^2

Big O = less than or equal to

Omega Ω = more than or equal to

Theta θ = equal to

Beta β = less than

lowerOmega = more than Ω

little o = ‘<’

little omega = ‘>’

If limit = 0 : f(n) is bigger than g(n)

If limit = infinity :

**When constant drop the lowest term**

3 nested for loops is

for the case

for the log n case assuming log n uses log base 2

n = 2^k is still just log n

2^k-1 = 2^k anything can be put things inbetween base 2

n

Let k be 2^k-1

Ceiling of log n

Celing of [2,4] is 3

Log(n^2

Example 29! / 3! = how many ways 29 people can be spread into groups of 3

Stirling Approximation

N log n = θO(n^2)

Because two n’s it becomes n \*n = O(n^2)

N^2 = N^1.5 log(10n) == n^2 / n^1.5 log(10n)

For Arithmetic Series = Additive

Induction

1. Assume statement is true for n

For Geometric Series = Multiplicative

For Harmonic Series =

Example