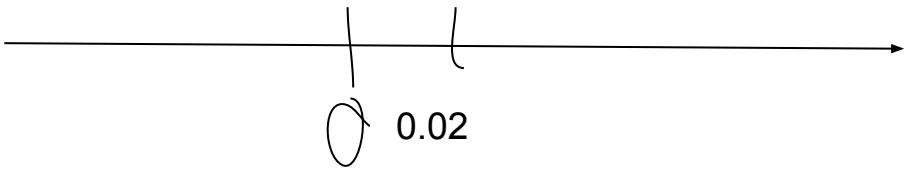
Найдите sup и inf последовательности: $a_n = \frac{n}{2^n}$

1/2^1 ; 2/2^2 ; 3/2^3 ; 4/2^4 ; 5/2^5



½ ; ½ ; ⅜ ; ¼ ; 5/32; 6/64

a(n+1)/an<1

(n+1)/2^(n+1) / n/2^n<1
(n+1)/2*2^n / n/2^n<1
(n+1) / 2n<1
(n+1) / n<2
n+1<2n
1<n

2^n=(1+1)^n=1^n + n*1 +(n(n-1))/2 … >1+n+(n(n-1))/2
½^n< 1/(n+1+(n(n-1))/2)

n/2^n < n / (n+1+(n(n-1))/2)= 1 / (1 + 1/n + n + ….)~1/(1+n) - >0