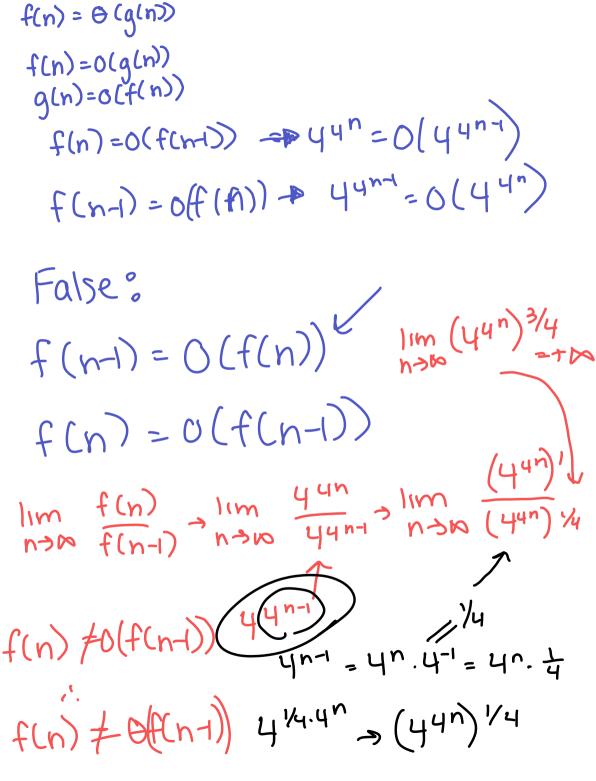
```
100010, an, # , 2"
     1)100010=0(2h)
                 \lim_{n\to\infty}\frac{1000^{10}}{2n}=0
                               O 15 a constant not dependent on n do 100010 = 0(2n).
\lim_{n \to \infty} \frac{2n}{n^{2}/2} \to \lim_{n \to \infty} \frac{4n}{n^{2}} \to \lim_{n \to \infty} \frac{4}{n} = 0
3) n^{2}/2 = O(2^{n})
                  nc=0(2n)
         \frac{N^2}{n} = O(N^2)
                     my rule: n = 0(2n)
                                                                      h2=0(2n)
                                   rule of transitivity: f(n)=g(n)

n2
=0(2n)
/ G(n) < h(n)
        \frac{1}{2} = 0(2^n)
\frac{1}{2} = 0
```



$$\lim_{n \to \infty} \frac{4^{n}}{4^{(n-1)}}$$

$$\alpha = 4^{(n-1)} = 4^{n} \cdot 4^{-1}$$

$$4^{(n-1)} = 4^{n} \cdot 4^{-1}$$

$$4^{(n-1)} = 4^{(n-1)} = 4^{(n-1)}$$

$$1 = \frac{1}{4^{n}} = \frac{1}{4}$$

$$1 = \frac{1}{4^{n}} = \frac{1}{4^{n}}$$

$$1 = \frac{1}{4^{n}} = \frac{1}{4^{n}}$$