



Each 32  
bit entity  
stored here  
is a word.

### Question

> How many addresses can  
a 32-bit word  
encode/represent?

$$2^{32} = 2^{10} \times 2^{10} \times 2^{10} \times 2^2$$

$$= 1K \times 1K \times 1K \times 4$$

~~4~~ 4 GB billion values

then your address space is 16 GB

> If you assume each address to  
refer to a 4-byte entity  
& you have 4 billion unique addresses,