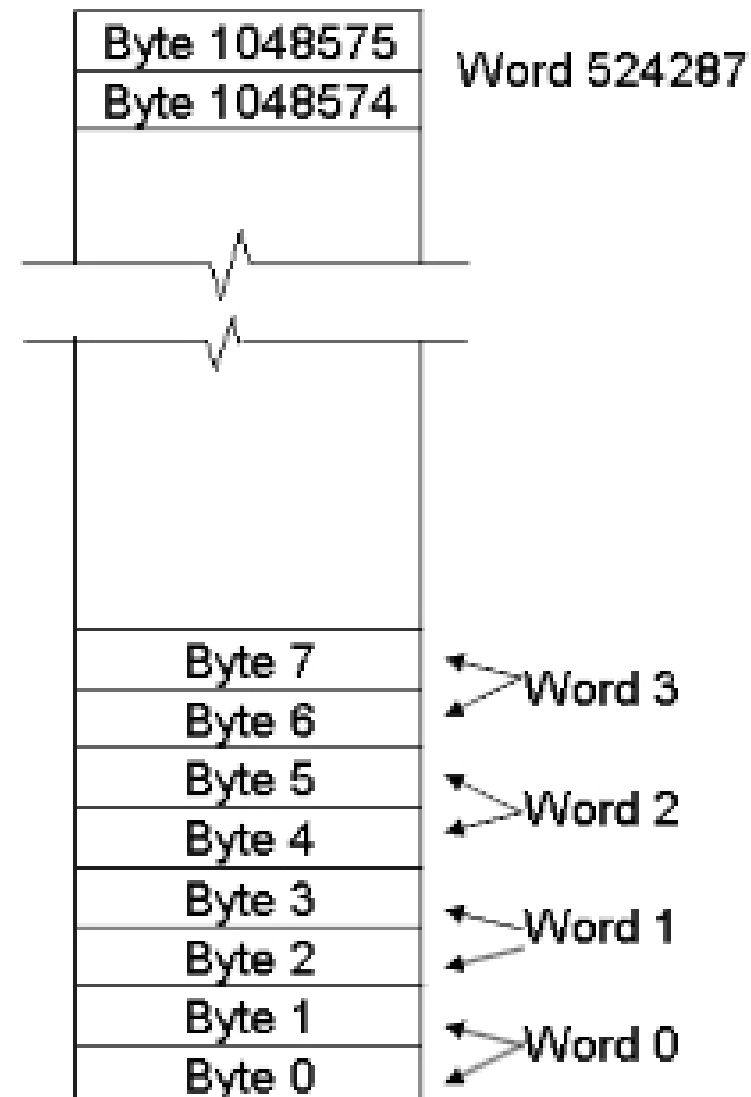


The 8086 has a 20-bit Address Bus

With 20 bits, 1,048,576 different combinations are available. Each memory location is assigned a different combination. Each memory location is 1-byte wide. Therefore, the memory space of the 8086 consists of 1,048,576 bytes or 524,288 16-bit words.



Problem

- The 8086 has a 20-bit address bus. Therefore, it can access 1,048,576 bytes of memory. How many bits and how many HEX digits are required to access 1M memory?
- $2^N = 1M$ (where N is in bits)
- $N = 20 \text{ bits} \Rightarrow 20/4 = 5 \text{ HEX digits}$

Positional Notation (Hex Digits)

