Logical to Linear Address Translation

Linear address = Segment × 10 (hex) + Offset

Example:

segment = A1F0 (hex)

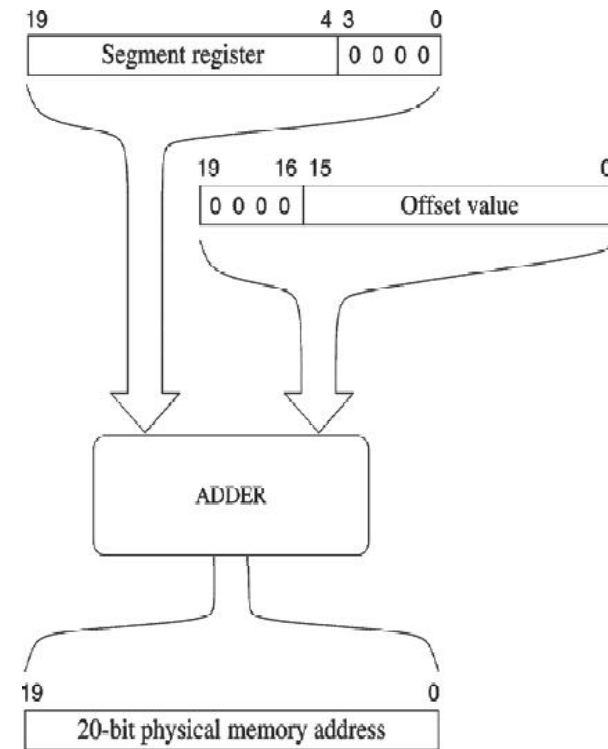offset = 04C0 (hex)

logical address = A1F0:04C0 (hex)

what is the linear address?

Solution:

A1F00 (add 0 to segment in hex)

+ 04C0 (offset in hex)

A23C0 (20-bit linear address in hex)

Real Address Mode

❖ A program can access up to six segments at any time

  ✧ Code segment

  ✧ Stack segment

  ✧ Data segment

  ✧ Extra segments (up to 3)

❖ Each segment is 64 KB

❖ Logical address

  ✧ Segment = 16 bits

  ✧ Offset = 16 bits

❖ Linear (physical) address = 20 bits