#→ Map a 2k bytes memory with 1024×8 memory chip.
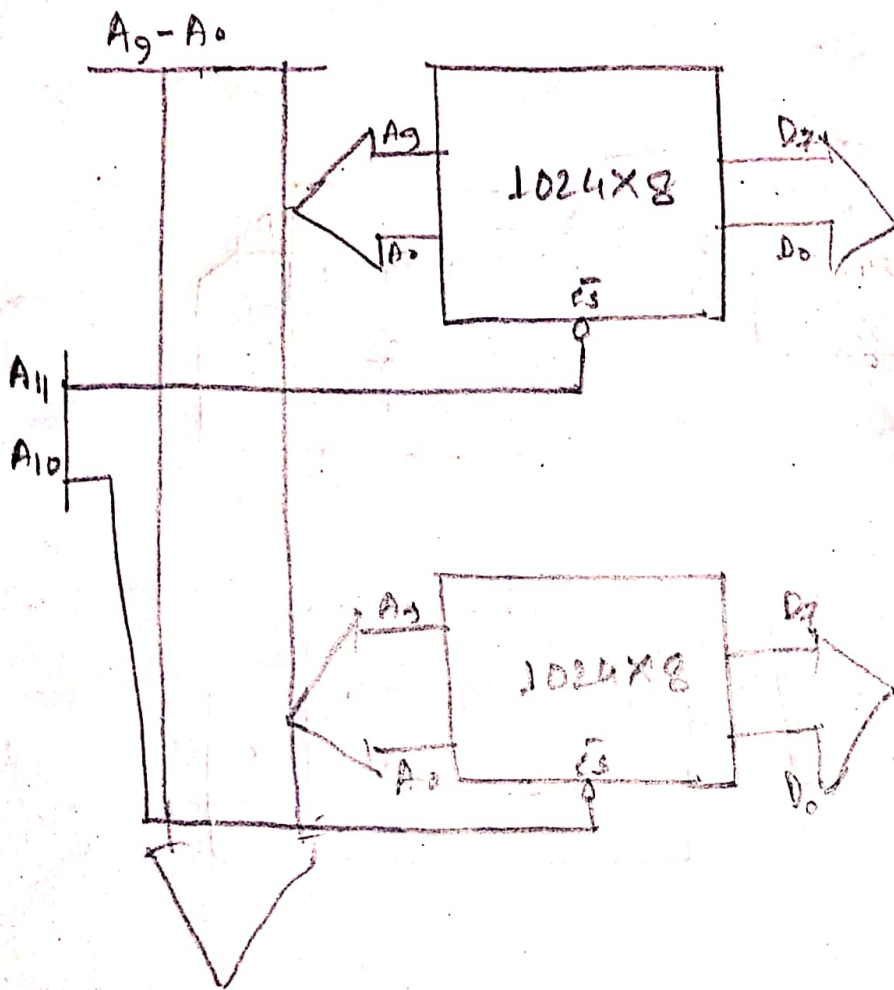
Here, number of chips required? $= \dfrac{\text{Required memory size}}{\text{Given memory size}}$

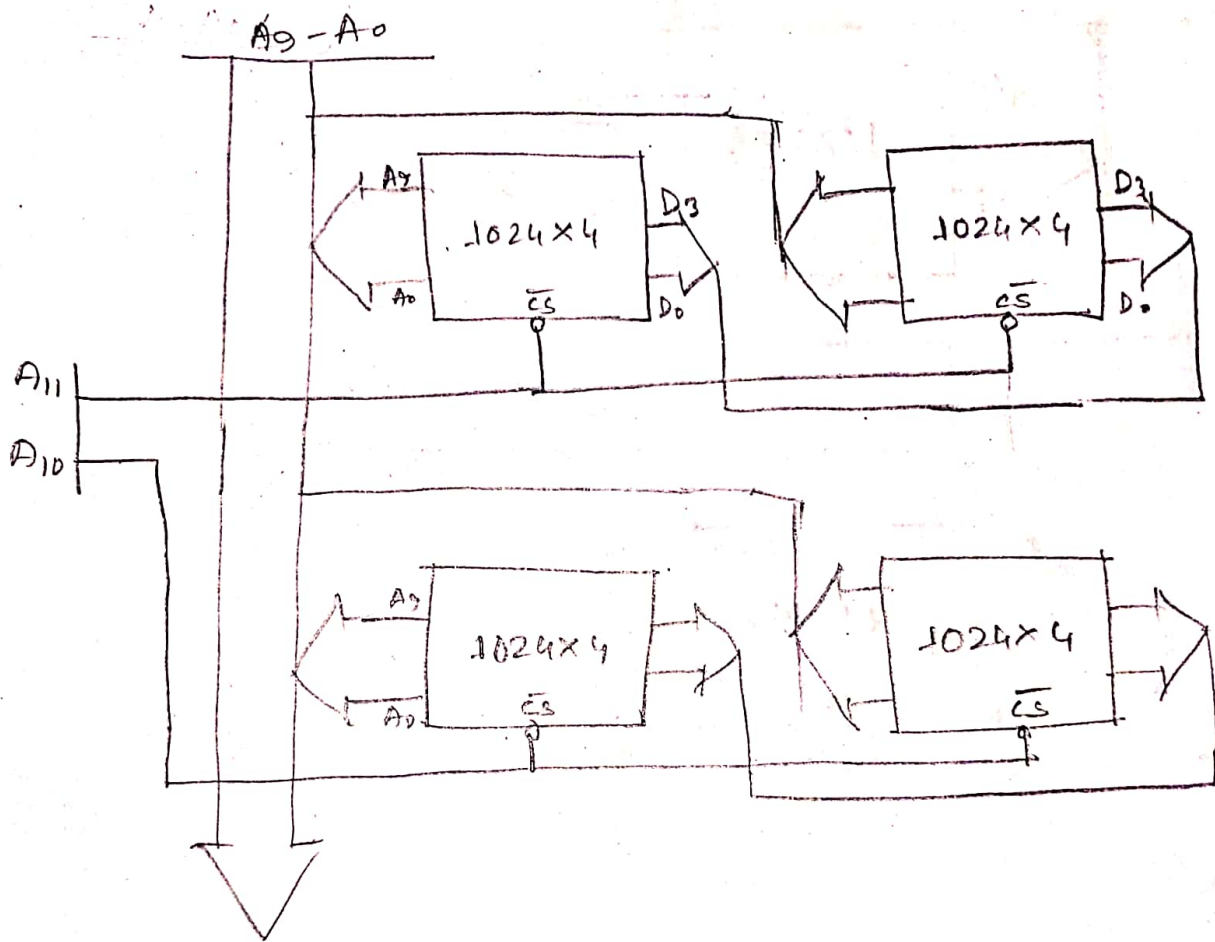$$= \dfrac{2 \times 1024 \times 8}{1024 \times 8}$$

$$= 2$$

Design a 2kbytes memory with 1024×4 memory chips.

Number of chips required = $\dfrac{2 \times 1024 \times 8}{1024 \times 4}$ = 4

Two 1024×4 chips are required to make 8 bit data lines which represents 1kbyte memory.

Hence, such two chips are required to represent 2kB.

Design a 32KB memory with 256×4 memory chips.

Here, number of chips required $= \dfrac{32 \times 1024 \times 8}{256 \times 4} = 256$

Two 256×4 chips are required to make 8 bit data line.

Hence, 128 chips of 256×8 size are required to map 32KB memory.