Name ___________________________ GT#_________

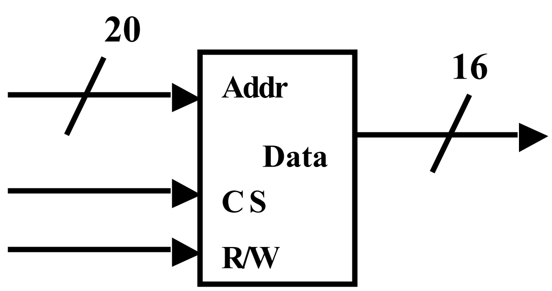
ECE2030b- HW-7 Due Wednesday Dec. 5, 2002 – Memory, Assembly

Memory.

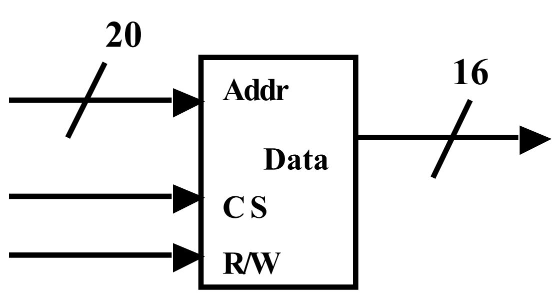
A. Complete the table below. A “2M x 16” memory has 2M words of 16 bits.

Memory	Total Bits	# of addresses	# of address lines	# of data lines
1M x 8				
1K by 4				
64K x 16				
4M x 32				

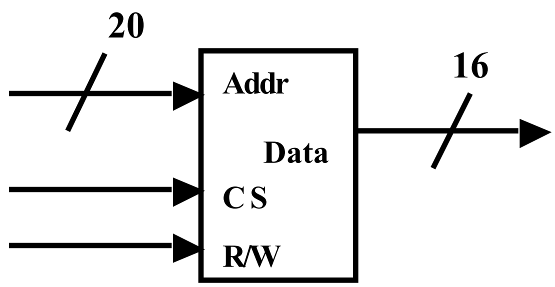
B. Show how to connect these 1M x 16 chips to make a 1M by 32 memory.

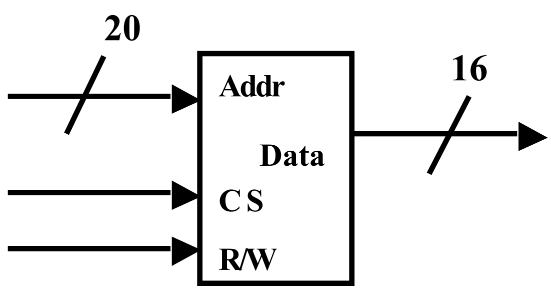


C.



C. Show how to connect these 1M x 16 chips to make a 2M by 16 memory. The data outputs are three-state bus drivers.





Assembly. D. Write in R4000 assembly language the commands to do the following:

Compare two variables, X and Y. If X >= Y then do a non-relative jump to the instruction whose address is in register $5. Use the SLT instruction.

X is in memory address 0x00002800. Y is in memory address 0x00003900.

E. What is the offset address (in 19-bit hex) for the BEQ instruction below to branch back to label "loop"?

```
loop:   add     $2, $3, $2

        beq     $2, $6, ____________________
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