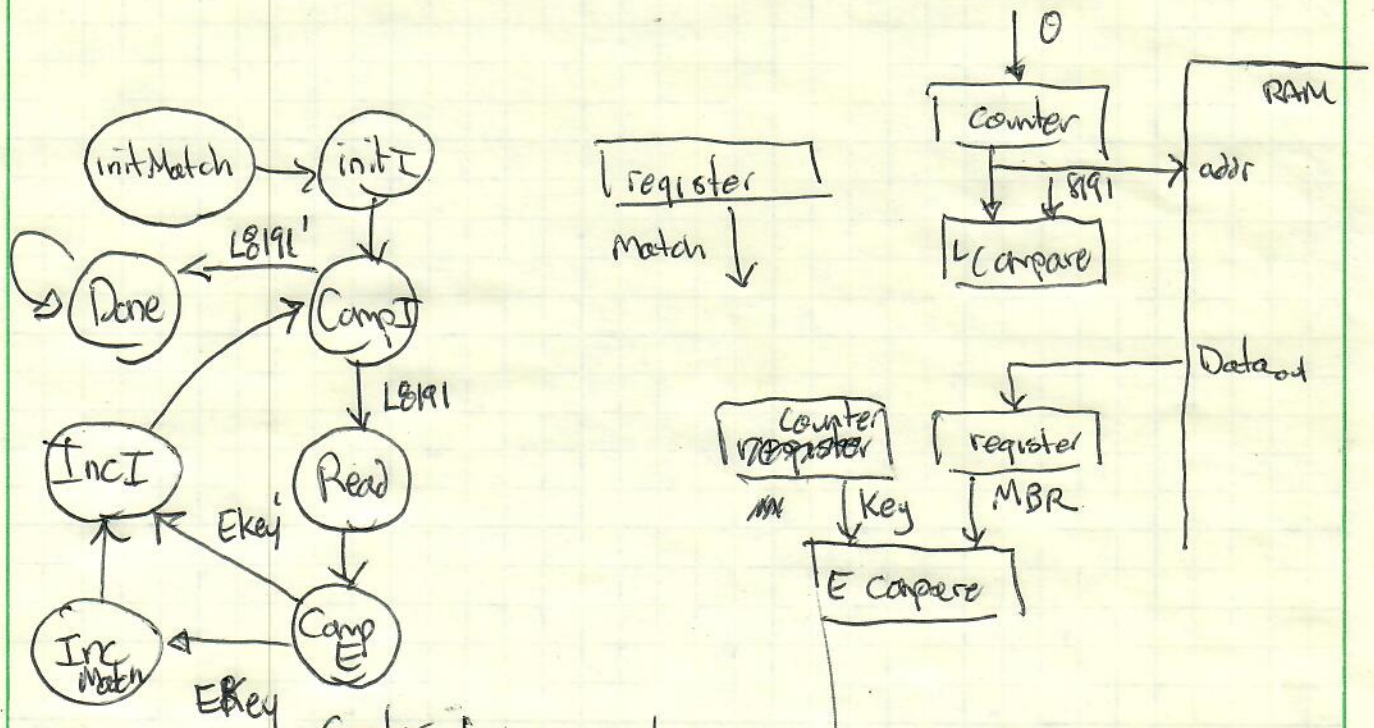


Build a circuit that counts the number of occurrences of an 8-bit Key in a $8K \times 8$ RAM.

Algorithm

1. match = 0;
2. for (i = 0; i ≤ 8191; i++) {
3. MBR = RAM[i];
4. if (MBR == Key)
5. match += 1;
6. }



	Counter Match	Counter I	Reg Key	Reg MBR
InitMatch	Load			
InitI		Load		
CompI				
Read				Load
CompE				
IncM	Inc	1		
IncI		Inc		