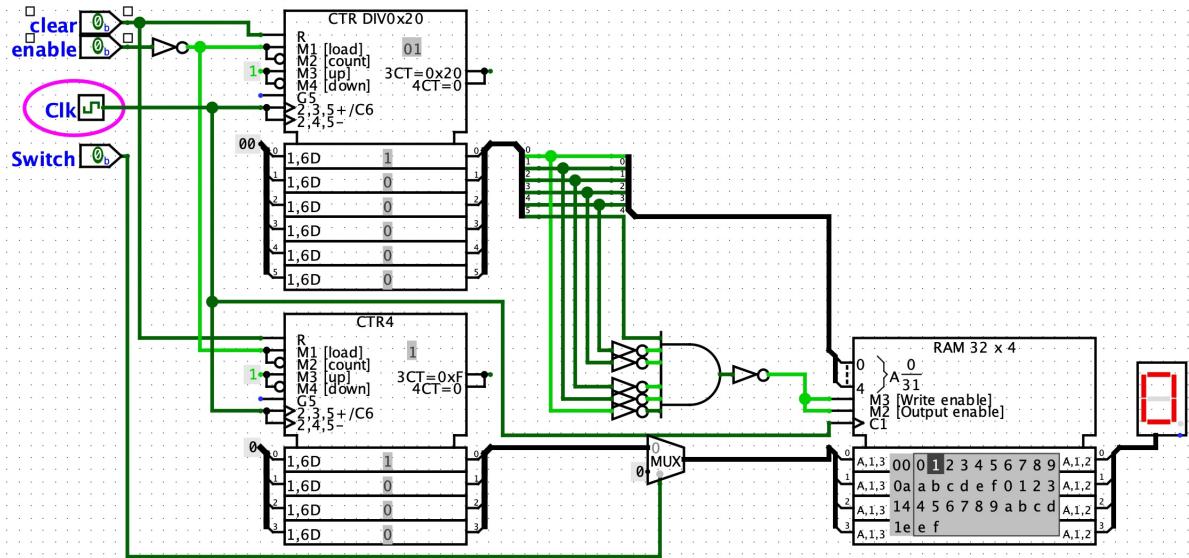


Part I 1.

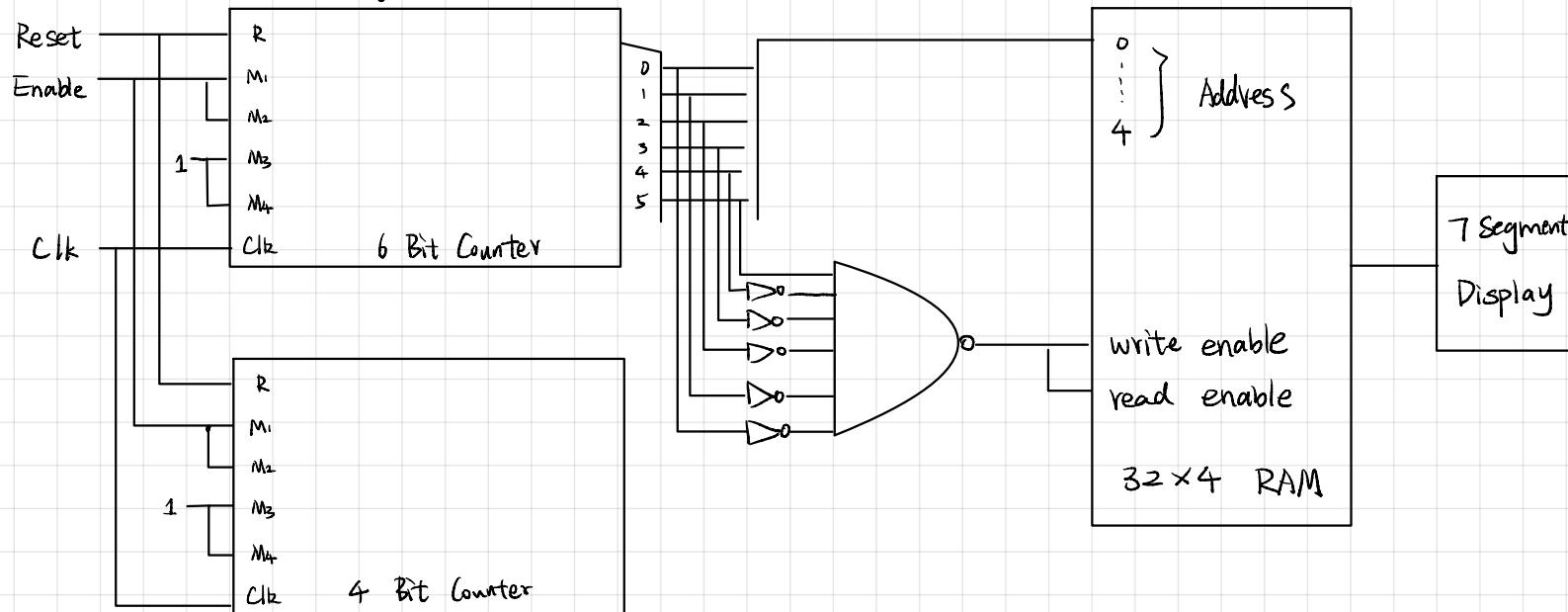


2. If we set both write Enable and output Enable to low, we won't store the data into the RAM of address, and the output will remain the last data be outputed.

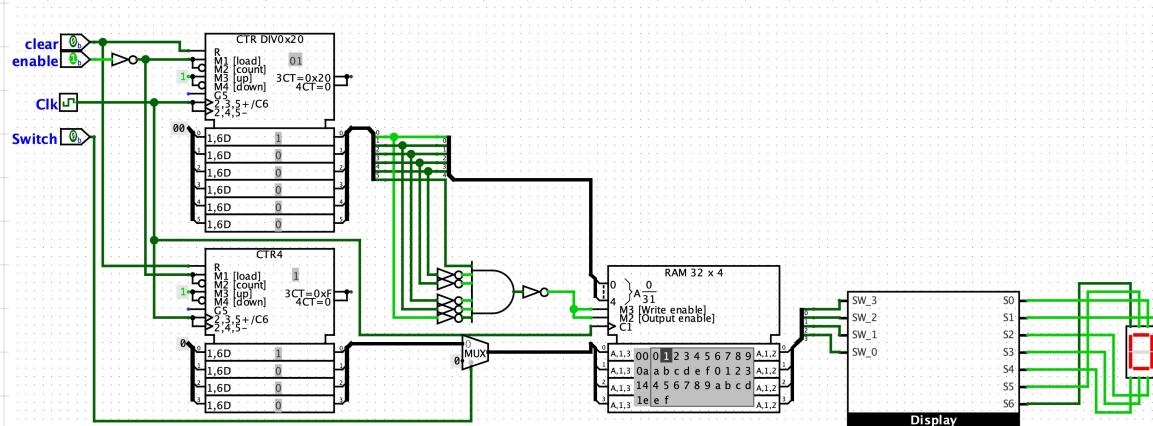
If we set them to be high, the data will be stored at address and it will be outputed by RAM.

5.

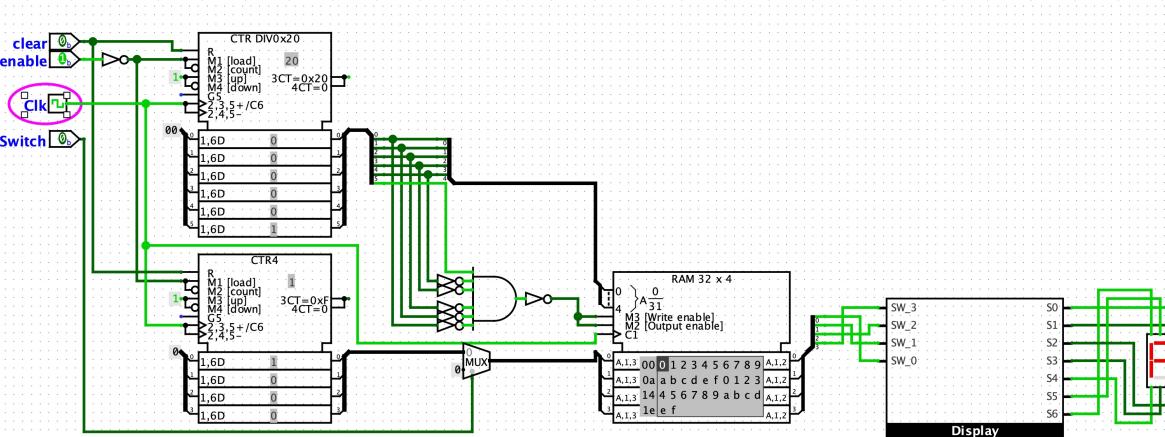
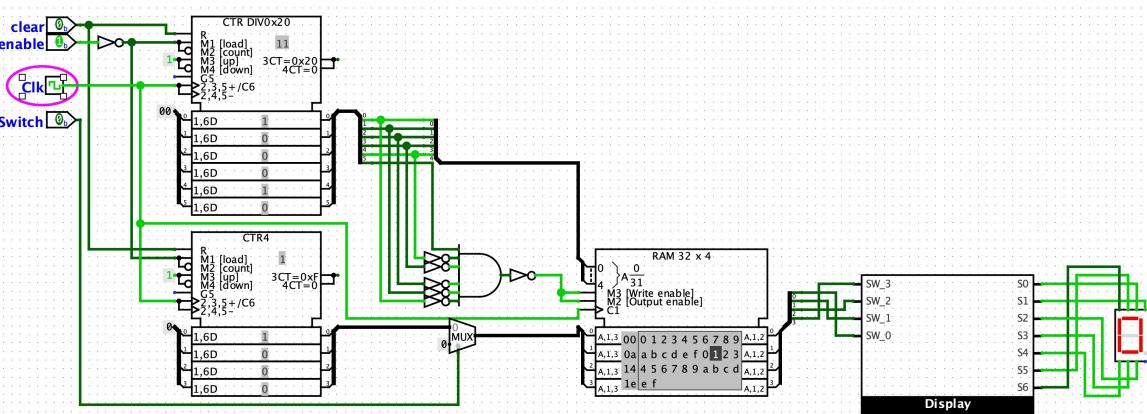
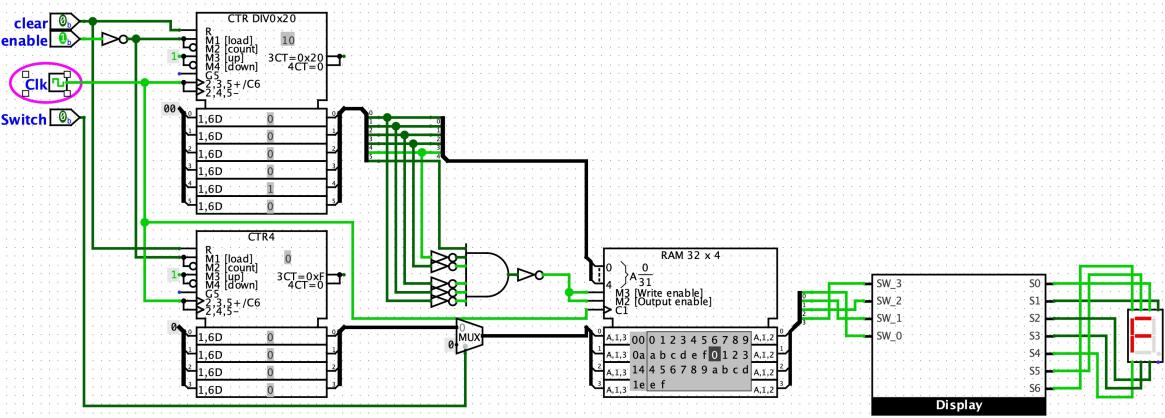
set to stay at value mod and the max to be 100000,
 after the counter reached 100000, it stops counting
 and the RAM will stop working.



6. For each address in RAM, we need a state, therefore
 we use a counter to track the state and corresponding address.



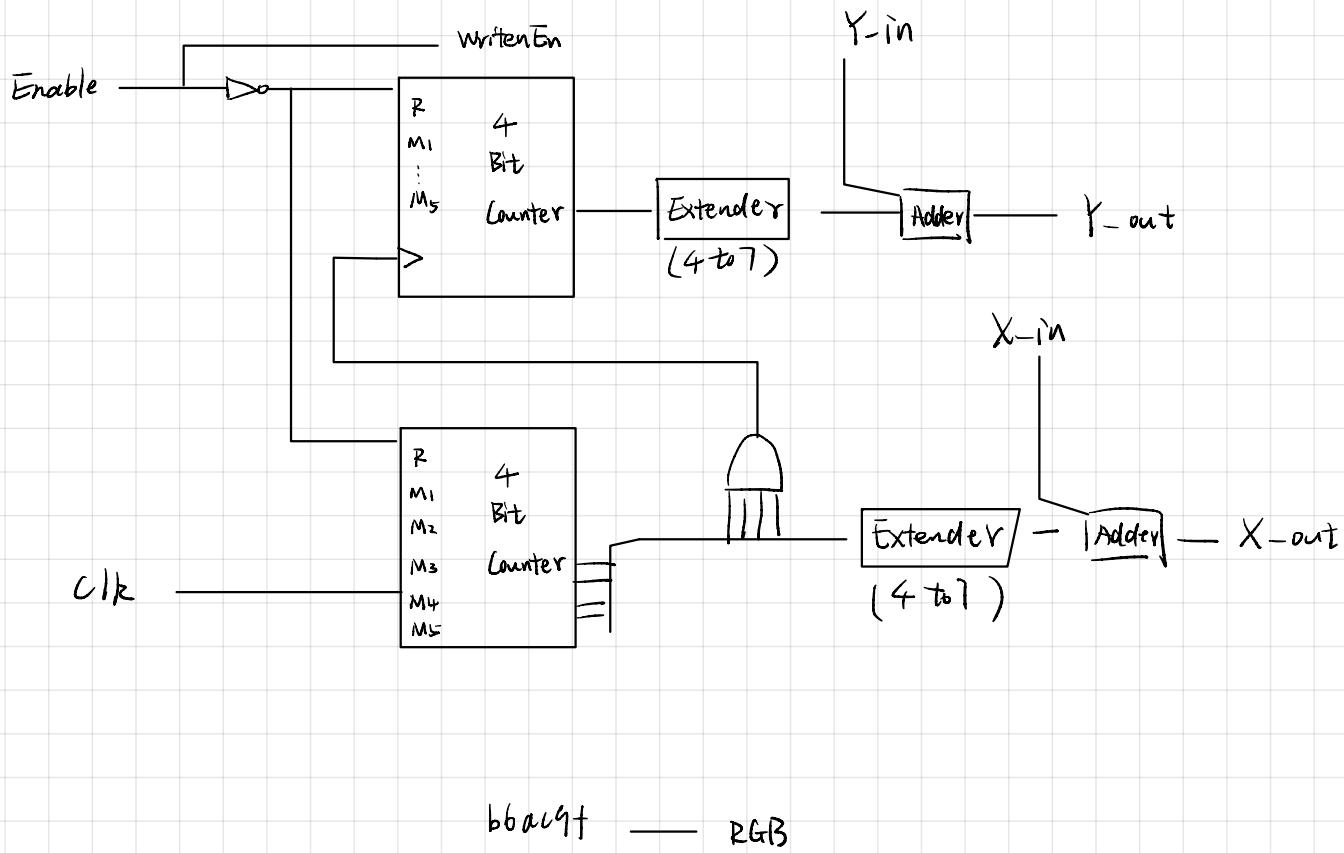
After 1 clock,
 the register in
 module block stores
 0 and start
 working.

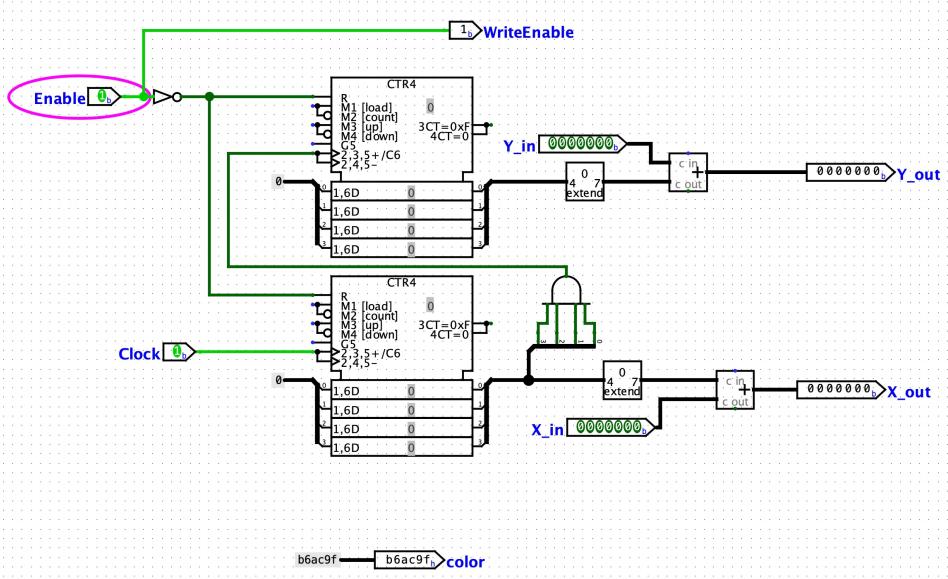


Part II

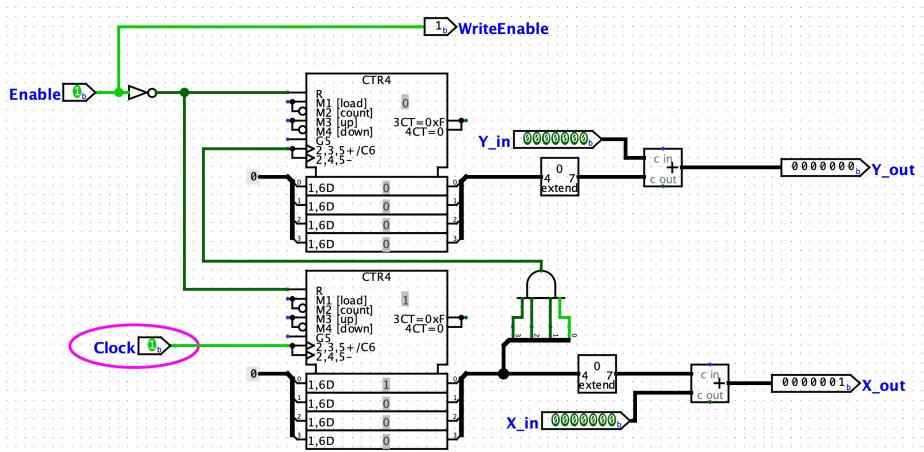
1. In my design, if you do not turn enable off before update X and Y, no new square will be drawn.
2. If you turn off Enable before 256 clock cycles, the picture will remain what it is like which will be a square missing some pixels.
3. All images will be erased and the RGB Video will remain black since resrt is high.

1. Schematic

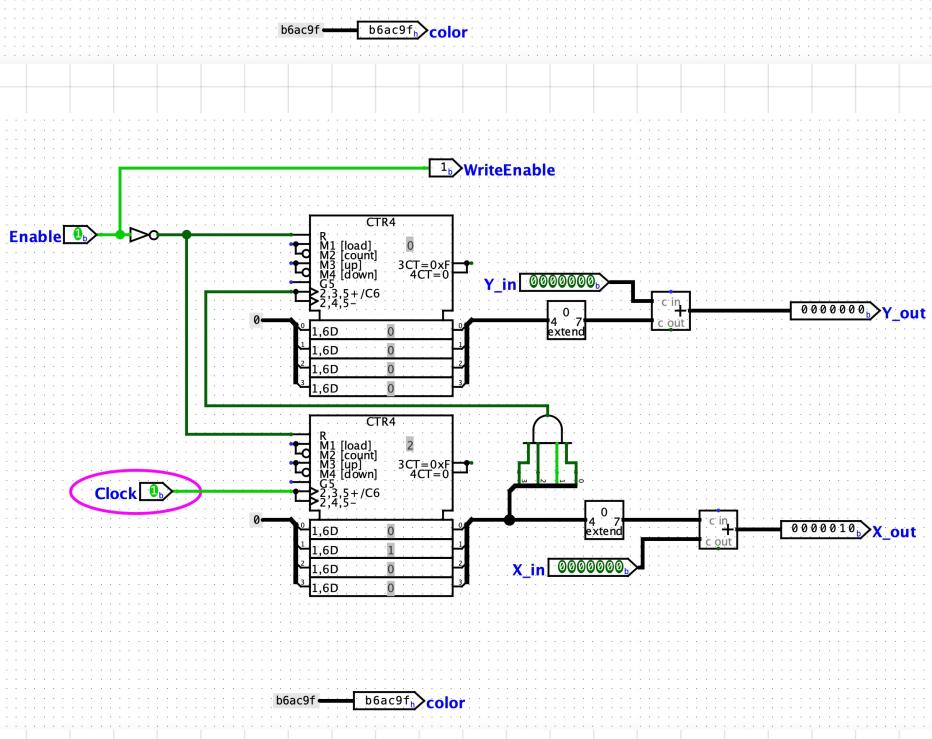




After 1 clock

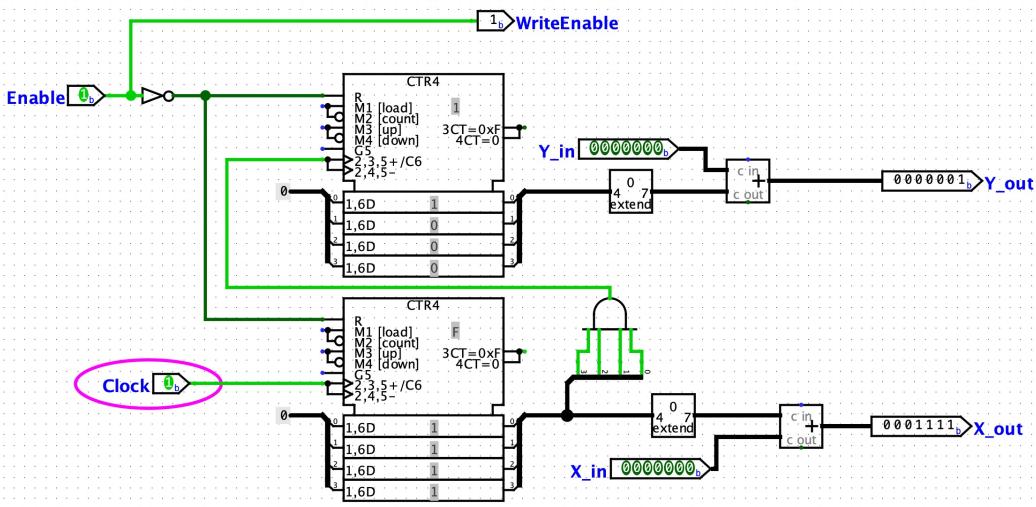


X : 0 → 1



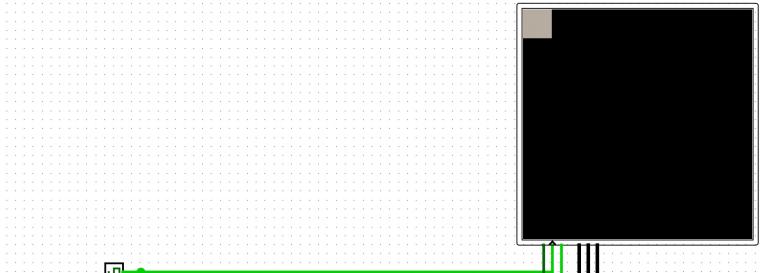
After 1 clock

X : 1 → 2

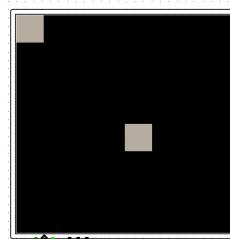
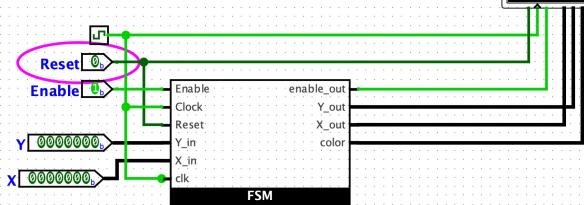


$X \quad Y \quad \text{MAX} : 111$ since 4 bits

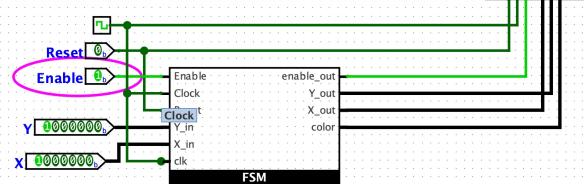
3.



left - top corner



Add another one



right bottom corner

