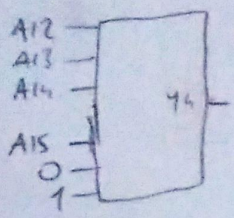
1)a-



A15 must be 0 for enable decoder

A12-14 must be 100 for being Y4 is zero.

So position is 0x4000 - 0x4FFF

b- MOV register, memory → reading a data from this ROM.

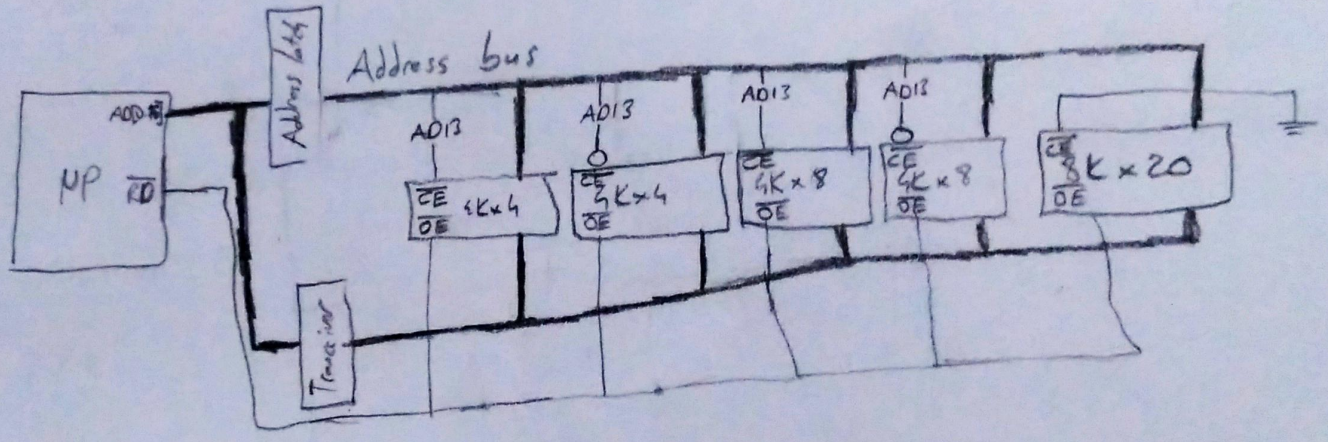
2-) a) A15-A14 must be 0 for enable decoder1

01 must be 0 for enabling decoder 2 thus A13 must be 1

001 → A15-13 range → 2000 — 3FFF

b) A15, A14, A13 cannot change. We can change 13 bits. So we can store 2^{13} bytes.

3-)



There are 4K×4 and 4K×8 chips. Thus i used addressing to make a 8K×8

Two 4K×4 chip makes 8K×4 and two 4K×8 chip makes 8K×8.

8K×4 and 8K×8 and 8K×20 makes 8K×32.

for 0XXX address left 4K×4 and 4K×8 will work and

for 1XXX address right 4K×4 and 4K×8 will work.