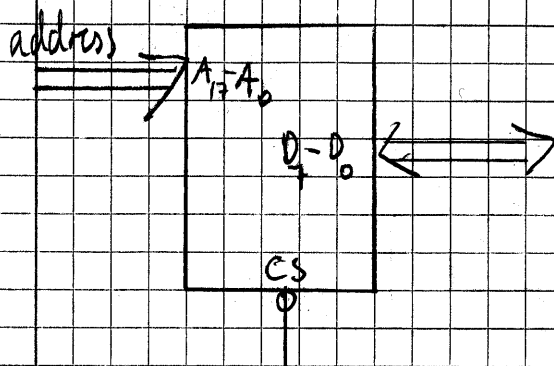


1)



Ett minne skall sättas
sammen mha komponenten
till vänster.

Minnet skall var 1 Mbyte
stort och organiserat med
en 16 bitars databuss.

Antalet kapslar:

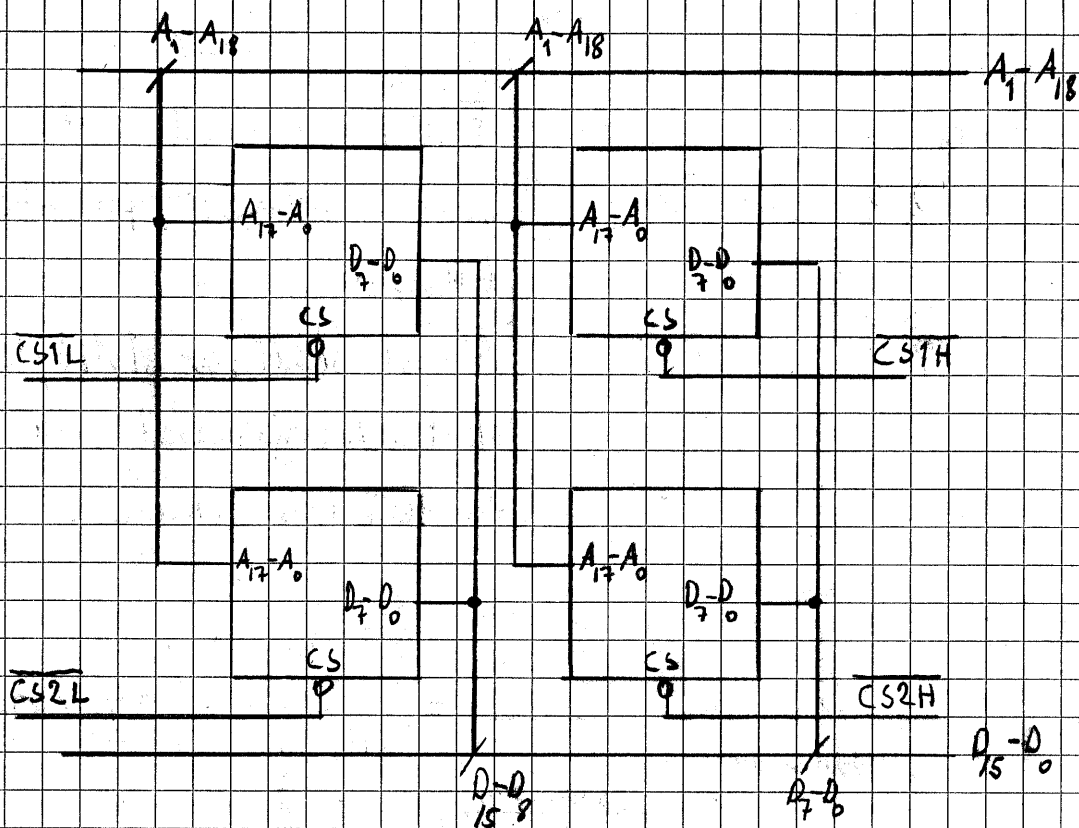
$$m_{\text{comp}} = \frac{S}{2^{n_{\text{address-comp}}} \cdot \frac{n_{\text{data-comp}}}{8}} = \frac{2^{20}}{2^{18} \cdot \frac{8}{8}} = 2^2 = \underline{\underline{4}} \text{ komponenter}$$

Antal kapslar per bank:

$$m_{\text{kp}} = \frac{n_{\text{data-bus}}}{n_{\text{data-comp}}} = \frac{16}{8} = \underline{\underline{2}} \text{ komp/bank}$$

Antal minnesbanker:

$$m_{\text{bank}} = \frac{m_{\text{comp}}}{m_{\text{kp}}} = \frac{4}{2} = \underline{\underline{2}} \text{ banker}$$



2)

a)

	A_{23}	A_{22}	A_{21}	A_{20}	A_{19}	A_{18}	A_{17}	A_{16}	A_{15}	A_{14}	A_{13}	A_{12}	$A_{11}-A_0$
RAM	0	0	0	0	1	0	-	-	-	-	-	-	-
ROM	0	0	0	0	1	1	0	0	-	-	-	-	-
I/O	0	0	0	0	1	1	1	1	0	1	1	-	-
RAM Låg	0	0	0	0	1	0	0	0	0	0	0	0	0...0
RAM Hög	0	0	0	0	1	0	1	1	1	1	1	1	1...1
ROM Låg	0	0	0	0	1	1	0	0	0	0	0	0	0...0
ROM Hög	0	0	0	0	1	1	0	0	1	1	1	1	1...1
I/O Låg	0	0	0	0	1	1	1	1	0	1	1	0	0...0
I/O Hög	0	0	0	0	1	1	1	1	0	1	1	1	1...1

Komponent

Adressområde

RAM	08 0000 - 0B FFFF
ROM	0C 0000 - 0C FFFF
I/O	0F 6000 - 0F 7FFF

b)

RAM: $2^{\text{don't care bits}} = 2^{18} = 2^{10} \cdot 2^8 = 256 \text{ kbyte lagringsvolym}$

ROM: $2^{\text{don't care bits}} = 2^{16} = 2^{10} \cdot 2^6 = 64 \text{ kbyte} \quad -''-$

I/O: $2^{\text{don't care bits}} = 2^{13} = 2^{10} \cdot 2^3 = 8 \text{ kbyte}$