

BSR mode and Mode 0 of 8255 PPI with 8085 and 8086

Task (i):

Find the port addresses of 8255 for interfacing with 8086.

⇒ Port address for 8255 and 8086 interfacing.

CS'	A ₁₅	A ₁₄	A ₁₃ ...A ₃	A ₂	A ₁	A ₀	Selection	Address
0	1	0	0...0	0	0	0	Port A	8000 H
0	1	0	0...0	0	0	1	Port B	8001 H
0	1	0	0...0	0	1	0	Port C	8002 H
0	1	0	0...0	0	1	1	Control Register	8003 H
1	x	x	x...x	x	x	x	No Selection	x

Task (ii):

What will be the CW in a 16-bits Control Word Register under mode 0 to make: Port A & Port C-Upper as input port and Port B & Port C-Lower as output port?

⇒

D ₇	D ₆	D ₅	D ₄	D ₃	D ₂	D ₁	D ₀
1	0	0	1	1	0	0	0
mode-0			I/P of A	I/P of C _U	M ₀	O/P of B	O/P of C _L

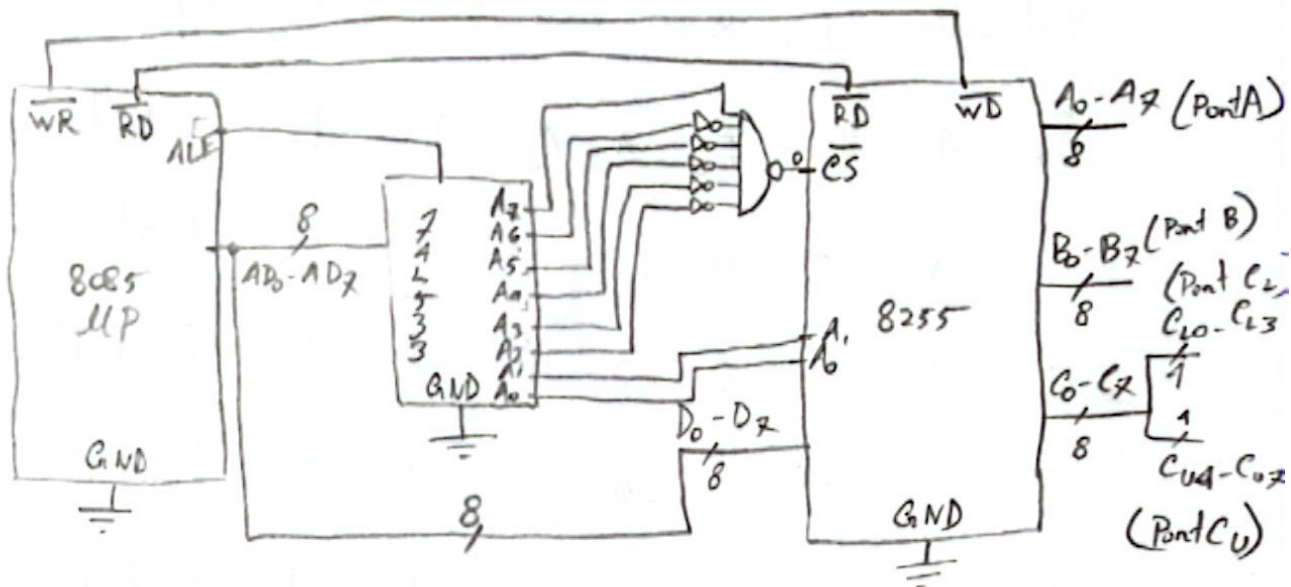
∴ CW in 16-bit CWR is : (00 98 H)₁₆

Task (iii):

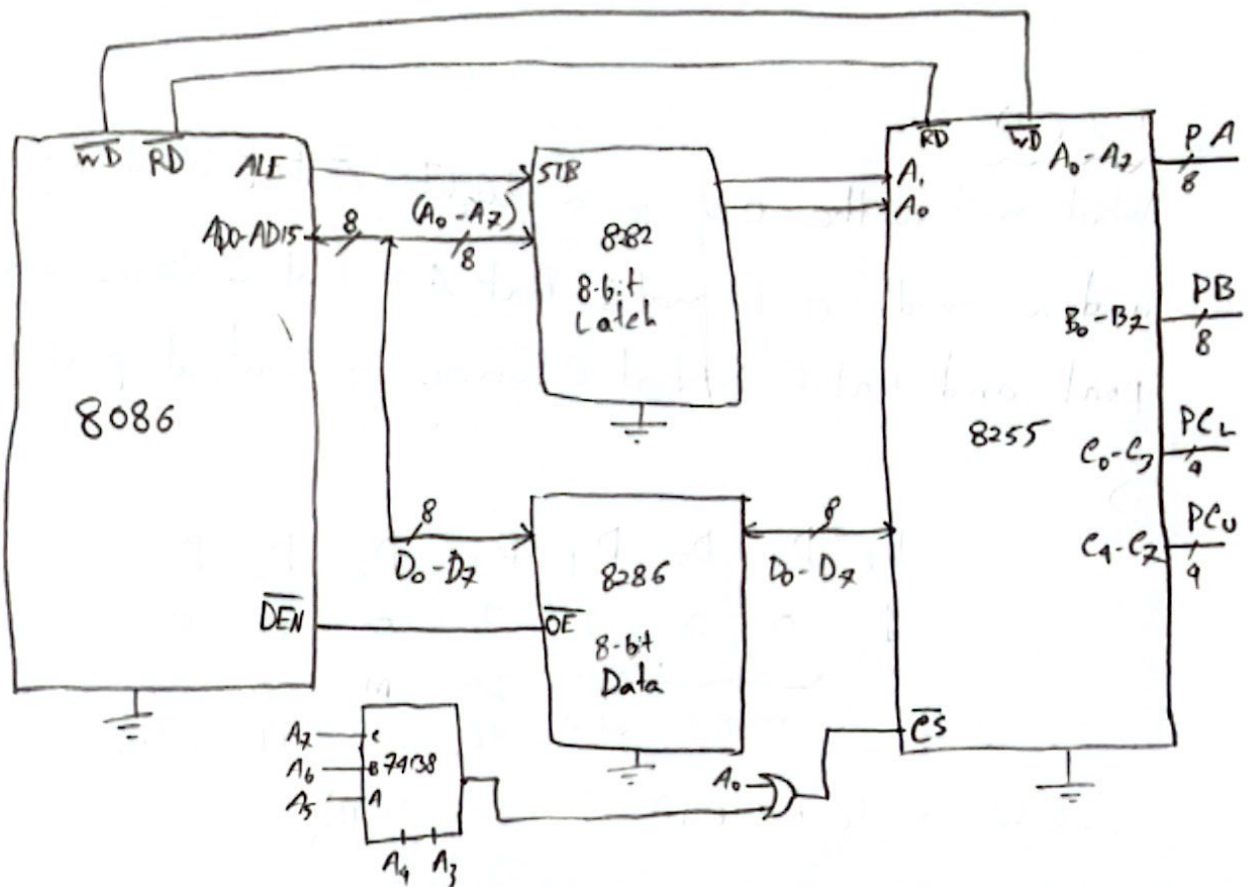
Mode 0 of 8255 PPI with 8085 and 8086.

Q. Write both 8085 and 8086 connection diagram.

8085 and 8255 interfacing:



8086 and 8255 interfacing:



Task (iv):

④ Transfer data from Port A to B. ⑤ Transfer data from lower port C to Upper port C.

Solutions:

For 8085:

```
MVI A, 98H // Read; CW For IO
OUT 83H // CR
IN 80H // Read A
OUT 81H // WRITE TO B
IN 82H // READ CL
RRC // Shift Right 1 time
RRC // " " 2 "
RRC // " " 3 "
RRC // " " 4 "
ANI A, 0FH
OUT 82H // WRITE TO CU
HLT
```

For 8086:

```
MOV AL, 98H ; LOAD TO AL
OUT 0083H ; DISPLAY AL
IN 0083H, AL ; Output to port
IN AL, 0080H ; INVI FROM 0080H
OUT 0081H, AL ; OUT TO PORT B
IN AL, 0082H ; READ CL
SHR AL, 4 ; Shift Right 4-byte.
AND AL, 0FH ;
AND AL, 000FH
MOV AH, AL ; MOVE TO AH
OR AH, 000FH
OUT DX, AH ; OUT FROM CU
HLT
```