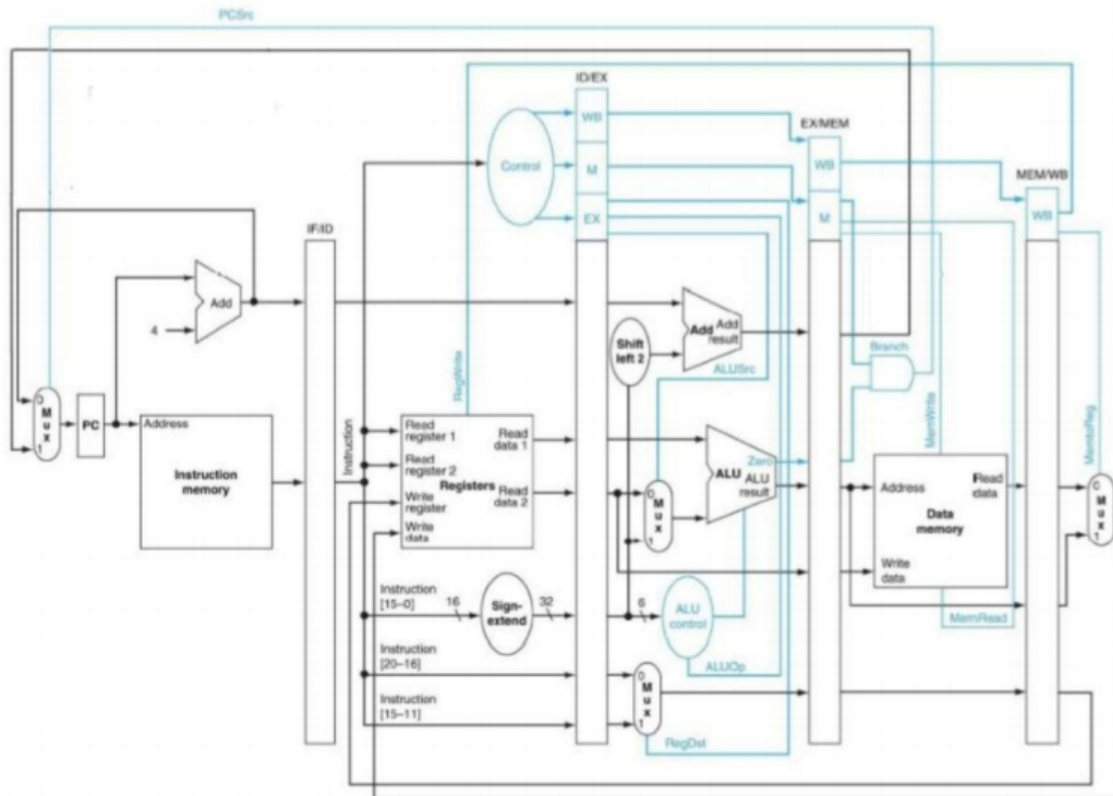


## Computer Organization COLab4 report

Architecture diagrams:



Hardware module analysis:

主要是把Pipe\_CPU.v的線給接對, module多為助教提供或是沿用上次作業, 特別注意在做lw時WriteRegister的值是由instr\_20\_16或是instr\_15\_11打包送回才會正確 (講義ch4 p62)。

Problems You Met and Solutions:

這次要接的東西有點多, 要想一下, 小心的接。

Result:

CO\_P4\_test\_data1.txt

```

Register=====
r0=      0, r1=      3, r2=      4, r3=      1, r4=      6, r5=      2, r6=      7, r7=      1
r8=      1, r9=      0, r10=     3, r11=     0, r12=     0, r13=     0, r14=     0, r15=     0
r16=     0, r17=     0, r18=     0, r19=     0, r20=     0, r21=     0, r22=     0, r23=     0
r24=     0, r25=     0, r26=     0, r27=     0, r28=     0, r29=     0, r30=     0, r31=     0

Memory=====
m0=      0, m1=      3, m2=      0, m3=      0, m4=      0, m5=      0, m6=      0, m7=      0
m8=      0, m9=      0, m10=     0, m11=     0, m12=     0, m13=     0, m14=     0, m15=     0
r16=     0, m17=     0, m18=     0, m19=     0, m20=     0, m21=     0, m22=     0, m23=     0
m24=     0, m25=     0, m26=     0, m27=     0, m28=     0, m29=     0, m30=     0, m31=     0
$stop called at time : 170 ns : File "C:/Users/GameToGo/Desktop/myLab4/Cahw4/CO_Lab4_v2/TestBench.v" Line 56

```

CO\_P4\_test\_data2.txt

Modify the machine code:

l1: addi \$1,\$0,16	001000000000000010000000000010000
l3: addi \$3,\$0,8	0010000000000000110000000000001000
NOP	000000000000000000000000000000000
NOP	000000000000000000000000000000000
l4: sw \$1,4(\$0)	101011000000000010000000000000100
l2: addi \$2,\$1,4	0010000000010001000000000000000100
l7: add \$6,\$3,\$1	00000000011000010011000000100000
l5: lw \$4,4(\$0)	100011000000001000000000000000100
l8: addi \$7,\$1,10	0010000000010011100000000000001010
l10: addi \$9,\$0,100	001000000000100100000000001100100
l6: sub \$5,\$4,\$3	00000000100000110010100000100010
l9: and \$8,\$7,\$3	00000000111000110100000000100100

result:

```
Register=====
r0=      0, r1=      16, r2=      20, r3=      8, r4=      16, r5=      8, r6=      24, r7=      26
r8=      8, r9=     100, r10=      0, r11=      0, r12=      0, r13=      0, r14=      0, r15=      0
r16=      0, r17=      0, r18=      0, r19=      0, r20=      0, r21=      0, r22=      0, r23=      0
r24=      0, r25=      0, r26=      0, r27=      0, r28=      0, r29=      0, r30=      0, r31=      0

Memory=====
m0=      0, m1=      16, m2=      0, m3=      0, m4=      0, m5=      0, m6=      0, m7=      0
m8=      0, m9=      0, m10=      0, m11=      0, m12=      0, m13=      0, m14=      0, m15=      0
r16=      0, m17=      0, m18=      0, m19=      0, m20=      0, m21=      0, m22=      0, m23=      0
m24=      0, m25=      0, m26=      0, m27=      0, m28=      0, m29=      0, m30=      0, m31=      0
$stop called at time : 170 ns : File "C:/Users/GameToGo/Desktop/myLab4/CAhw4/CO_Lab4_v2/TestBench.v" Line 56
```

Summary:

這此作業主要是要把圖片中的每一條線看清楚，每一條線都要接對，不然會一直錯，module 大多由助教提供或是沿用之前作業，比較不是問題。