deal w/ 3 external ints
UART. PSHBT. Timer 1

PIT

```
.set UART, 0x8400
.set UCONT, 0x0C
.set INTC, 0x818C
.set IER, 0x08
.set TIME1, 0x83C2
.set TCSR1, 0x10
.ORG 0x3000
li R0, 0
lis R31, UART
li R1, 0x0010 or 0x10
Stw R1, 0x0C(R31)
```

→ set MER, 0x1C

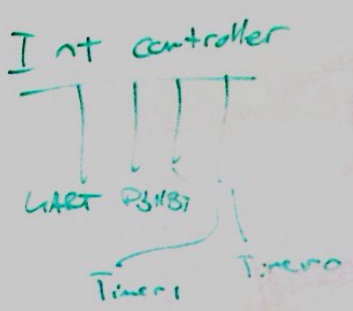
→ or UCONT(R31)

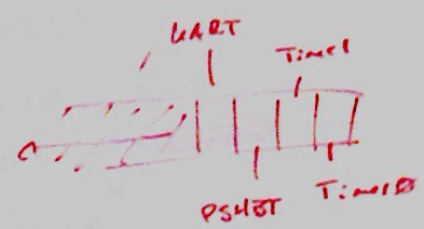
UART

```
lis R30, INTC
li R1, 0x0E
Stw R1, 0x08(R30) or IER(R30)
```

Intc

reg's w/ a bl





1111 0000

0x D0 F0

00 00 0 1 00 0010

0x 0 4 2 0

TIMER

```
lis R29, TIME1
li R1, 0xF0
Stw R1, TCSR1(R29)
```

PIT

```
lis R1, 0x0420
mtctr R1
```

MER → li R1, 0x3
Stw R1, MER(R30)

EVPR → mtcvpr R0

EE. → wrteei 1

Set address 0X00060000

```
lis r2, 0X6
li r3, 0d4096
mtctr r3,
li r10, 0
li r11, 0
li r12, 0
li r13, 0
loop:
lmw r28, 0 (r2)
add r10, r28, r10
add r11, r29, r11
add r12, r30, r12
add r13, r31, r13
addi r2, r2, 16 (← words)
bdNZ loop
divw r10, r10, r3
divw r11, r11, r3
divw r12, r12, r3
divw r13, r13, r3
```

5.)

```
.SET UART_B 0x8360
.SET INTC 0x8380
.SET UART 0x8400
.SET ISR 0x0
.SET IPR 0x4
.SET IER 0x8
.SET IAR 0xC
.SET MER 0x1C
.SET RxFIFO, 0x0
.SET USTAT, 0x8
.SET UCOUT, 0xC
```

```
.SET LED1 0x8260
.SET LED2 0x8261
.SET LED3 0x8262
.SET LED4 0x8263
.SET LED5 0x8264
```

```
.ORG 0x 3000
LIS R31, UART
LIS R30, INTC
LI  R1, 0xB
STW R1 IER(R30)
LI  R1, 0x10
STW R1, UCOUT(R31)
LIS R1, 0x2000
MTEVPR R1
```

```
LI R0, 0
LIS R2, LED1
LIS R3, LED2
LIS R4, LED3
LIS R5, LED4
LIS R6, LED5
STW R0, 4(R2)
STW R0, 4(R3)
STW R0, 4(R4)
STW R0, 4(R5)
STW R0, 4(R6)
```

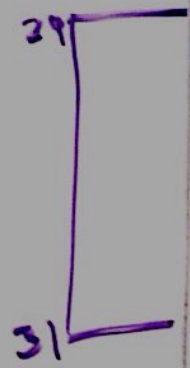
SET LEDS AS OUTPUTS

```
LI R1, 0x4
STW R1, IPR(R30)
LI R1, 0x8
STW R1 IER(R30)
LI R1, 0xC
STW R1, IAR(R30)
LI R1, 0x83
STW R1 MER(R30)
WRTEEI 1
```

6.)

```
ORG. 20000500
LIS R10, INTC
LIS R11, UART_B
LWZ R1, IPR(R30)
ANDI. R1, R1, 0x8
BF 2, ISR
```

VALID: LWZ R1, RxFIFO(R11)

```
ISR: LI R1, 0x8
STW R1, IAR(R10)
LWZ R1, USTAT(R31
ANDI. R1, R1, 0x1
BF 2, VALID
```

```
.ORG 0x3000
LI   R1, 0x5000
LI   R5, 5
bl   PUSH

HERE: NOP
      b HERE

PUSH: MFLR  R31
      STMW  R29, 0(R1)
      ADDI  R1, R1, -12
      ADDI  R5, R5, -1
      CmpI  1, 0, R5, 0
      bt    6, POP
      bl    PUSH

POP:: LMW   R29, 0(R1)
      ADDI  R1, R1, 12
      MTLR  R31
      LR
```