Week
6  Lab 4
7  project planet
8  Midterm

MIPS - online resources
61C sp12
150 sp12

- sock
- greenshed

Last line: UART

Reg file

Serial

How many registers?
How many bits? FF?

MIPS

Reg file - today
ALU - later

CIS50 12.8Y
176L1
MIPS inst
R-type 6 5 5 5 5 5 6
<table>
<thead>
<tr>
<th>op</th>
<th>rs</th>
<th>rt</th>
<th>rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I-type op 1 rs rt | inst | immed.
J-type op 1 | target |
rs, rt, rd
   | 0   |    |    |    |
   | G   |    |    |    |
   | 2-3 | V0, V1 | funct. return |
   | 4-7 | a0-a3 | args |
   | 8-15 |      | temps |
   | 16-23 | 30-57 | saved |
SW: #51, 0($t0) M(R(5)+0) = R(17)

R-type Add $t0, $t1, $t2
   rd, rs, rt

Fig 7.7

Need a MUX on A3:
rt for I-type
rd for R-type
MUX on A3
Sign Inn for I-type
MUX on A0 src B
RD for I-type
RD2 for R-type
Worksheet

Then

\begin{align*}
\text{j label} & \quad \text{PC} = \left\{ \begin{array}{l}
\text{PC}+4 [31:28] \quad \text{if target, jump addr.} \\
00 \\
\end{array} \right. \\
\text{jal label} & \\
R[31] & = PC + 4 \quad (\text{later 8})
\end{align*}