SWE30001 RTP 2014 **Week 5, 6 and 7 "Lab 4" Marking**

When: _____

Team _____

_____

Present __ _____-

	Simulator	**Hardware**
a) set position of a turnout		
b) set polarity of a block		
c) set CAB of a block		
d) generalize items (a), (b),(c) by reading single-digit numbers from the keyboard. Read args that may be 1 or 2 digits before command letter, eg 13b+2, 13s.		
e) reverse (flip) the polarity of one block (selected from keyboard). Note you cannot read the block_register values back from a DIO192 card.		
f) initialize all three sections of the DIO192		
g) In Week 6: email me a zip of your simulator code.		
h) restructure so that block and turnout functionality is coded in separate packages		
i) set CAB and polarity for all blocks in an oval circuit round the track (all turnouts straight)		
j) flip the polarity of the oval circuit		
k) set DAC voltage		
l) run one train round the circuit with speed and polarity control (note that blocks are NOT allocated/deallocated dynamically)		
m) ensure the packages (step h) correspond to HRT-HOOD objects.	Week 7: see below	n/a
n) turn/straighten individual turnouts (timing done automatically so that your code confirms that the turnout is actually in position)		
o) code turnout failure recovery	Not required in 2014	Not required in 2014
p) set up (with one user key press) oval operation and figure-8 operation of one train (program both; ensure that it will always succeed no matter what simulated faults occur).	(Of course current hardware means the turnout recovery cannot be tested on hardware.)	
Mark	/1%	