

Accepted: on paper, **IN LAB** on 04/30/2010

If you are unable to do that, please turn it during Conrad's office hours **ONLY**, not in lecture.

FILL THIS OUT WITH YOUR **LAB05 "PAIR PARTNER"**

For this assignment, it is only *necessary* to turn in one submission per pair (or trio).

Name One: (2 pts) _____ Umail address (2 pts) _____

Section (2 pts) Circle one: 9am 10am 11am noon

Name Two: (2 pts) _____ Umail address (2 pts) _____

Section (2 pts) Circle one:: 9am 10am 11am noon

FILL THE NEXT PART OUT ONLY IF YOU ARE AUTHORIZED BY THE TA/INSTRUCTOR TO WORK IN A GROUP OF THREE

Name Three: _____ Umail address _____

Section—Circle one: : 9am 10am 11am noon

For this worksheet, the preparation is:

- playing the routing and deadlock game in lab (in person) on 04/30, and/or
- reading over the following web page that describes the game
<http://www.cs.ucsb.edu/~pconrad/csed/cs-unplugged/routing-deadlock/>

Once you've done the preparation, write answers to these questions on this sheet (use the [PDF link](#) to print a copy of this if you weren't in class).

1. (16 pts) On the web page that describes the game
(<http://www.cs.ucsb.edu/~pconrad/csed/cs-unplugged/routing-deadlock/>),
scroll to the bottom and review the example strings that represent the game state.

Then, for each of these, indicate whether it is a legal game state string, and if not, indicate why.

The first two are done for you as examples—and there are more examples at the web page linked to above.

string	ok?	explanation
"rrooyyg "	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	This is a legal string for a four person game with colors r,o,y and g.
"rooyygrg"	YES <input checked="" type="checkbox"/> NO	No space, so this one is no good.
"bwpybwp "	YES <input type="checkbox"/> NO	
"rbpgrbyg "	YES <input type="checkbox"/> NO	
"rrooy ygbpbg"	YES <input type="checkbox"/> NO	
"rrooy ygbprg"	YES <input type="checkbox"/> NO	

Please turn over for more...

...continued from other side

2. (12 pts) For each of the following, is it a legal sequence of moves? The first three are done for you as examples.

string	ok? (circle one)	explanation
"rro ygboyg" "rroy gboyg"	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	legal
"rro ygboyg" "rrog yboyg"	YES <input checked="" type="checkbox"/> NO	The before and after strings are different in a place other than where the spaces appear.
"rro ygboyg" "rrooyg yg"	YES <input checked="" type="checkbox"/> NO	The object wasn't passed between two adjacent players.
"roy rgbpboyg" "royr gbpboyg"	YES <input type="checkbox"/> NO	
"rroy gbpboyg" "rroygb pboyg"	YES <input type="checkbox"/> NO	
"rrooy gbyg" "rrooyg byg"	YES <input type="checkbox"/> NO	

3. (10 pts) For a 3 person game, starting with the string "royro ", indicate a complete sequence of legal moves, ending with "rrooy ".

You might not need all the rows. There is a solution that reaches the goal in seven moves.

Can you solve it in fewer than seven?

	r	o	y	r	o	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						