

EE382V: VLSI Physical Design Automation

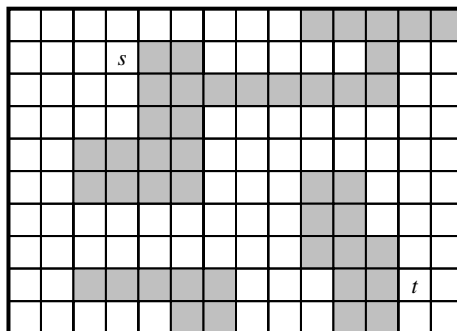
Fall 2008 (Prof. David Pan)

Homework #4: due Nov 5, 2008

1. ILP based global routing: Formulate an ILP-based routing problem for the following netlist: $\{n_1=B_2-B_4-B_6, n_2=B_3-B_4, n_3=B_1-B_2-B_5-B_6, n_4=B_2-B_5\}$. Assume that the capacity of each boundary is as follows: $\{B_1-B_2: 3, B_2-B_3: 4, B_4-B_5: 5, B_5-B_6: 4, B_1-B_4: 7, B_2-B_5: 5, B_3-B_6: 3\}$.

B_1	B_2	B_3
B_4	B_5	B_6

2. Maze & line search algorithm: For each given algorithm that finds a path from s to t on the following grid, (i) fill in the visited cells with proper labels, (ii) give the total number of cells visited, and (iii) give the length of the path found.



- a) Lee's maze router with double fan-out
- b) Lee's maze router with Akers' 1122 sequence
- c) Hadlock's minimum detour router
- d) How many lines and exit points will Mikami-Tabuchi and Hightower algorithm generate?