

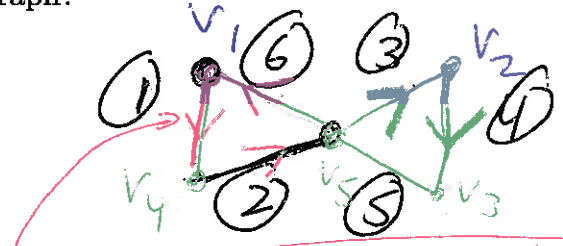
Math 4060 Sample Quiz 4

[5] 1.) Define (note this will be one from the midterm).

[5] 2.) Define (one of the more recent definitions).

[10] 3.) Suppose a computer program uses Hierholzer's algorithm to find an Eulerian circuit where the computer program gives lower indexed vertices priority (i.e., if the program must choose a vertex from a set of vertices, it will choose the one with lowest index). What would be the output if the input is the following adjacency matrix for an undirected graph?

	v_1	v_2	v_3	v_4	v_5
v_1	0	0	0	1	1
v_2	0	0	1	0	1
v_3	0	1	0	0	1
v_4	1	0	0	0	1
v_5	1	1	1	1	0



direction of Euler circuit, but Graph is undirected

~~$v_1, \langle v_1, v_4 \rangle, v_4$~~

show scratch work

$v_1, \langle v_1, v_4 \rangle, v_4, \langle v_4, v_5 \rangle, v_5, \langle v_5, v_1 \rangle, v_1$

$v_5, \langle v_5, v_2 \rangle, v_2, \langle v_2, v_3 \rangle, v_3, \langle v_3, v_5 \rangle, v_5$

Eulerian circuit

$v_1, \langle v_1, v_4 \rangle, v_4, \langle v_4, v_5 \rangle, v_5, \langle v_5, v_2 \rangle, v_2, \langle v_2, v_3 \rangle, v_3, \langle v_3, v_5 \rangle, v_5, \langle v_5, v_1 \rangle, v_1$

or

Eulerian circuit

$v_1, v_4, v_5, v_2, v_3, v_5, v_1$

← answer

or
If not multigraph