

Every answer is a number or yes or no. You get 5 points per correct box. No partial credit. Notes, textbook, and use of MATLAB are allowed, but no assistance from others.

I will create a file that you will download from the webpage onto your computer. Then load the file into MATLAB. The file contains examples of adjacency matrices of graphs with names like g_1 , g_2 , g_3 , \dots . For this practice quiz use (there is a link on the course website):

1. How many vertices does g_1 have?

2. How many edges does g_3 have?

3. What is the diameter of g_{20} ?

4. Give two vertices that are the maximal distance apart in g_{20} ?

5. How many connected components does g_7 have?

6. What is the size (number of vertices) of the largest component of g_9 ?

7. What is the distance between vertices 1 and 5 in g_6 ?

8. Is g_4 a tree? (Yes/No)

9. What is the highest degree vertex in g_5 ?

10. How many points are exactly distance 5 from vertex 1 in g_6 ?

11. g_5 has 100 vertices. How many edges connect some vertex between 1 and 50 with a vertex between 51 and 100?

12. How many paths of length 20 go between vertices 1 and 4 in the graph shown below?

