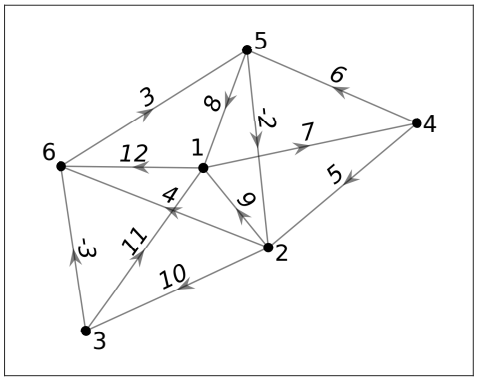
MATH.APP.270 Algorithms for graphs

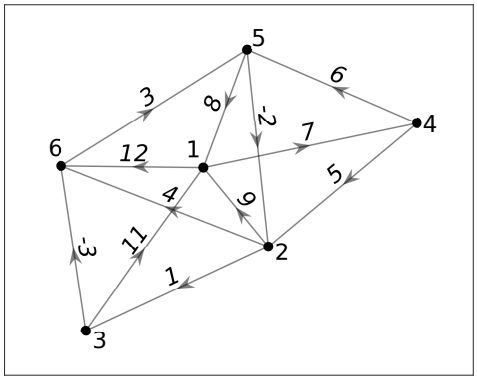
Programming assignment 2: more graphs for testing 2022

The digraphs that you should use for additional testing are presented here:

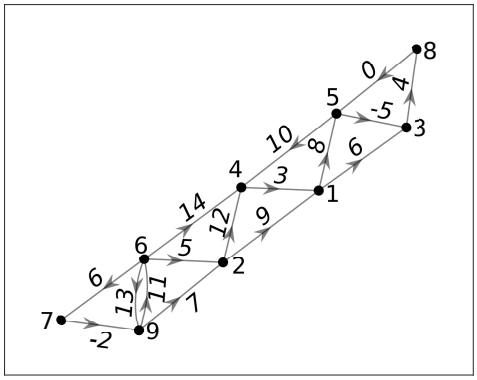
G_{10} :



G_{11} :



G_{12} :



The following table contains the input files for these graphs:

graph	Python input file	Matlab input file
G_{10}	`G10PythonFW.txt`	`G10MatlabFW.m`
G_{11}	`G11PythonFW.txt`	`G11MatlabFW.m`
G_{12}	`G12PythonFW.txt`	`G12MatlabFW.m`

The *Path* matrix for each of these graphs is given as follows:

$$G10: \begin{bmatrix} \langle 1\rangle & \langle 1,4,5,2\rangle & \langle 1,4,5,2,3\rangle & \langle 1,4\rangle & \langle 1,4,5\rangle & \langle 1,6\rangle \\ \langle 2,1\rangle & \langle 2\rangle & \langle 2,3\rangle & \langle 2,1,4\rangle & \langle 2,6,5\rangle & \langle 2,6\rangle \\ \langle 3,6,5,2,1\rangle & \langle 3,6,5,2\rangle & \langle 3\rangle & \langle 3,6,5,2,1,4\rangle & \langle 3,6,5\rangle & \langle 3,6\rangle \\ \langle 4,5,2,1\rangle & \langle 4,5,2\rangle & \langle 4,5,2,3\rangle & \langle 4\rangle & \langle 4,5\rangle & \langle 4,5,2,6\rangle \\ \langle 5,2,1\rangle & \langle 5,2\rangle & \langle 5,2,3\rangle & \langle 5,2,1,4\rangle & \langle 5\rangle & \langle 5,2,6\rangle \\ \langle 6,5,2,1\rangle & \langle 6,5,2\rangle & \langle 6,5,2,3\rangle & \langle 6,5,2,1,4\rangle & \langle 6,5\rangle & \langle 6\rangle \end{bmatrix}$$

$$G11: \begin{bmatrix} \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \end{bmatrix}$$

$$G12: \begin{bmatrix} \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle 2\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle 6,2\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle 6\rangle & \langle 6,7\rangle & \langle\rangle & \langle 6,7,9\rangle \\ \langle\rangle & \langle 7,9,2\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle 7,9,6\rangle & \langle 7\rangle & \langle\rangle & \langle 7,9\rangle \\ \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle\rangle \\ \langle\rangle & \langle 9,2\rangle & \langle\rangle & \langle\rangle & \langle\rangle & \langle 9,6\rangle & \langle 9,6,7\rangle & \langle\rangle & \langle 9\rangle \end{bmatrix}$$

You will have to check these results manually.