MINIMUM DOMINATING SET!

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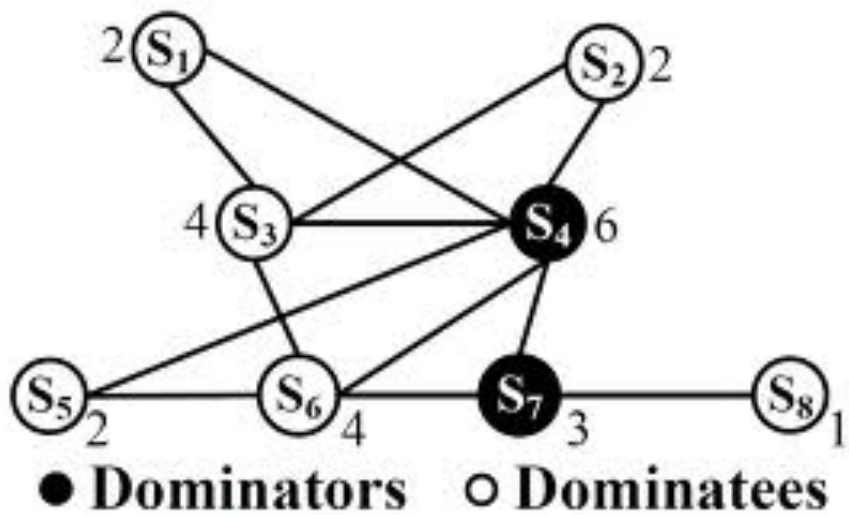
WHAT IS A MINIMUM DOMINATING SET?



	S1	S2	S3	S4	S5	S6	S7	S8
S1	0	0	1	1	0	0	0	0
S2	0	0	1	1	0	0	0	0
S3	1	1	0	1	0	1	0	0
S4	1	1	1	0	1	1	1	0
S5	0	0	0	1	0	1	0	0
S6	0	0	1	1	1	0	1	0
S7	0	0	0	1	0	1	0	1
S8	0	0	0	0	0	0	1	0

COMMANDS WE LEARNED THIS WEEK:

A=txtread('file')

B=biograph(C)

B.set('ShowArrows','off') ←to change the settings, use B.set

triu(A)

Mycell={'mycell is like a matrix', 'except you can write anything in here!', [1 2 3], 'just remember to put curly braces on the end!'}

C=mycell{3} → [1 2 3]

ids={'label' 'of' 'nodes'

A=combnk(v,6) ←generates every possible subset of vector v with 6 entries

Nchoosek(10,6) ←if you have 10 objects, how many ways are there to choose six of them?

HOW DO YOU CHECK TO SEE IF THERE'S A MINIMUM DOMINATING SET? MATRIX MULTIPLICATION!!!

1	0	1		X
0	1	1	x	Y
1	1	1		z

A=[0 1 1; 0 0 1; 1 1 0]
Add the identity matrix to A
B=A+eye(6)
Now, if you want to see if node 1 is a dominating set (or connected to both nodes 1 and 2), multiply B by v, where v=[1; 0; 0]
If the answer is [1; 1; 1], then node 1 is dominating!

Now how do you do that for a huge matrix where no node (probably) connects to every other node, but a set of nodes together connect to every other node?

THE END!