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Lab1
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#Nodes: 6, #Edges: 7

Has 3-4 edge : True

Has 6-4 edge : False

The adjacency matrix is :
[[0. 1. 0. 0. 0. 1.]
 [1. 0. 1. 1. 0. 0.]
 [0. 1. 0. 1. 1. 1.]
 [0. 1. 1. 0. 0. 0.]
 [0. 0. 1. 0. 0. 0.]
 [1. 0. 1. 0. 0. 0.]]

[[True True True True True True]
 [True True True True True True]
 [True True True True True True]
 [True True True True True True]
 [True True True True True True]
 [True True True True True True]]

The adjacency matrix for weighted graph is :
[[0. 2. 1. 0. 1. 0.]
 [2. 0. 0. 1. 1. 1.]
 [1. 0. 0. 3. 0. 0.]
 [0. 1. 3. 0. 0. 0.]
 [1. 1. 0. 0. 0. 0.]
 [0. 1. 0. 0. 0. 1.]]

The adjacency matrix for diagraph is :
[[0. 1. 0. 0. 0. 0.]
 [0. 0. 0. 1. 0. 0.]
 [1. 0. 0. 0. 0. 1.]
 [0. 0. 0. 0. 1. 0.]
 [0. 0. 1. 0. 0. 1.]
 [0. 1. 0. 0. 0. 0.]]
The matrix isn't the same as the one in the textbook because edges were not added in the same order

Difference between cocitation methods: 2057

Difference between cocitation methods after the identified change is: 0
We missed the diagonal, it wasnt made zero when we multiplied the matrix and its transpose

Neigbors of Linear Combination are:
The following numbers give the number of nodes shared by the respective neighbor and the node Linear combination

example 10 other nodes point to Vector (Euclidean Space) and Linear Combination both

This one is more specific, this tells us what other neigbors point to any 2 nodes, one is entered into the function. This can tell us formulas or the basis that any 2 formulas share, what they have in common or which other formulas were they both commonly derived from.

Vector (Euclidean Space)
10.0
Set of All Linear Transformations
1.0
Ordered Basis
3.0
Linearly Independent/Sequence/Real Vector Space
4.0
Linearly Dependent/Sequence/Real Vector Space
6.0
Linear Span
6.0
Linear Combination of Subset
10.0
Linear Combination of Sequence
8.0
Linear Combination of Empty Set
6.0
Matrix
1.0
Basis (Linear Algebra)
2.0
Matrix Product (Conventional)
1.0
Module
8.0
Linearly Independent/Set/Real Vector Space
1.0
Linearly Dependent/Set/Real Vector Space
2.0
Linearly Independent/Set
1.0
Linearly Independent/Sequence
1.0
Linearly Independent Set
6.0
Linearly Independent Sequence
10.0
Linearly Independent
2.0
Linearly Dependent/Set
2.0
Linearly Dependent/Sequence
2.0
Linearly Dependent Set
2.0
Linearly Dependent Sequence

8.0
Linearly Dependent
1.0
Zero Vector
10.0
Zero Scalar
3.0
Unitary Module
9.0
Vector Space
3.0
Linear Transformation
7.0
Vector Subspace
1.0
Vector (Linear Algebra)
3.0

Concept question:

What is the 6 node network that has a cocitation matrix given by

It is a Network in which every nodes is a neigbor of every other node, a fully connected Network

Bibliographic coupling will be the same
Yes it is possible if every bibliographical node also cites the other node which it bibliographs

Spanning Set
Linearly Dependent/Sequence/Real Vector Space
Linear Span
Linear Combination/Subset
Linear Combination/Sequence
Linear Combination/Empty Set
Linear Combination of Subset
Linear Combination of Sequence
Linear Combination of Empty Set
Generator/Module/Spanning Set
Relative Matrix
Linearly Independent/Sequence
Linearly Independent Sequence
Linearly Independent
Linearly Dependent/Sequence
Linearly Dependent Sequence
Linearly Dependent
Module
Linear Transformation

network 1 is
acyclic network
network 2 is
acyclic network
network 3 is

cyclic network

Jason Statham: ['Brad Pitt', 'Tom Cruise', 'Mark Wahlberg', 'Robert De Niro', 'Javier Bardem', 'Chris Evans', 'Charlize Theron', 'Bruce Willis', 'Jamie Foxx', 'Sylvester Stallone', 'Liam Hemsworth']
WILL FERRELL: ['Brad Pitt', 'Matt Damon', 'Bradley Cooper', 'Mark Wahlberg', 'Melissa McCarthy', 'Ben Affleck', 'Dwayne Johnson', 'Natalie Portman', 'Tina Fey', 'Steve Carell', 'Seth Rogen', 'Amy Adams', 'Ben Stiller', 'Jonah Hill', 'Paul Rudd', 'Julianne Moore', 'Rachel McAdams', 'Kristen Wiig', 'Owen Wilson', 'Jason Bateman']
kashif@kashif-Inspiron-5423:~/Desktop/Lab1$

The weight between these two neigbors can tell me the number of movies that theyve done togather and I can also find out their common movies

Zac Efron: ['Robert De Niro']
Clint Eastwood: ['Meryl Streep']

No not surprising, both didn't have a lot of movies in 2013, one was too young one was too old

A directed tree may not have a leaf and hence may have a cycle, acyclic has to have a leaf

I did not get the last question, what types of edges ?