

# HW16a - 3.29

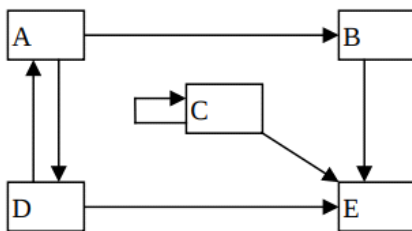
Tuesday, March 21, 2023 9:32 PM

## Homework 16a

only problems 2gklm, 5  
(For problem 2,  
only complete parts  
g, k, l, and m)  
(For problem 5b,  
ignore the edge weights)

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2023

2. Consider the following graph G.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

g) Give the minimum path from D to B and its length.

g)  
D, A, B.  
2

[REDACTED]

[REDACTED]

[REDACTED]

k) Is  $\langle E, B, A \rangle$  a simple path in G?

k) no

l) Is  $\langle D, A, D, A, D \rangle$  a cycle in G?

l) no

m) Give all simple cycles of G

m)  $\langle A, D, A \rangle, \langle D, A, D \rangle, \langle C, C \rangle$

[REDACTED]

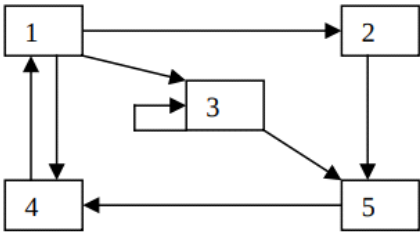
[REDACTED]

[REDACTED]

n  
 be  
 b  
 i. Give  
 e a  
 ld not be a  
 cycle

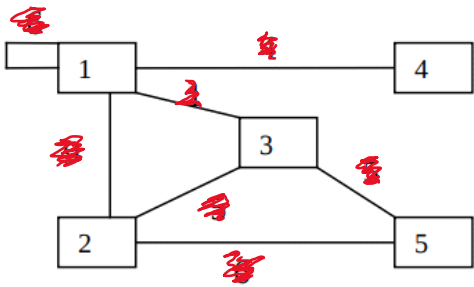
5. Give the adjacency list representation for the following graphs. (You may use the simple notation for adjacency lists that appears in the class notes.)

a)



|   |       |
|---|-------|
| 1 | 2,3,4 |
| 2 | 5     |
| 3 | 3,5   |
| 4 | 1     |
| 5 | 4     |

b) ignore edge weights



|   |         |
|---|---------|
| 1 | 1,2,3,4 |
| 2 | 1,3,5   |
| 3 | 1,2,5   |
| 4 | 1       |
| 5 | 2,3     |