TUTORIALS - SERIES NO. 03

EXERCISE N° 01

Study the characteristics of each of the graphs below:

(a)   **(b)**   **(c)**   **(d)**   **(e)**

(f)   **(g)**   **(h)/(b)**   **(i)/(c)**
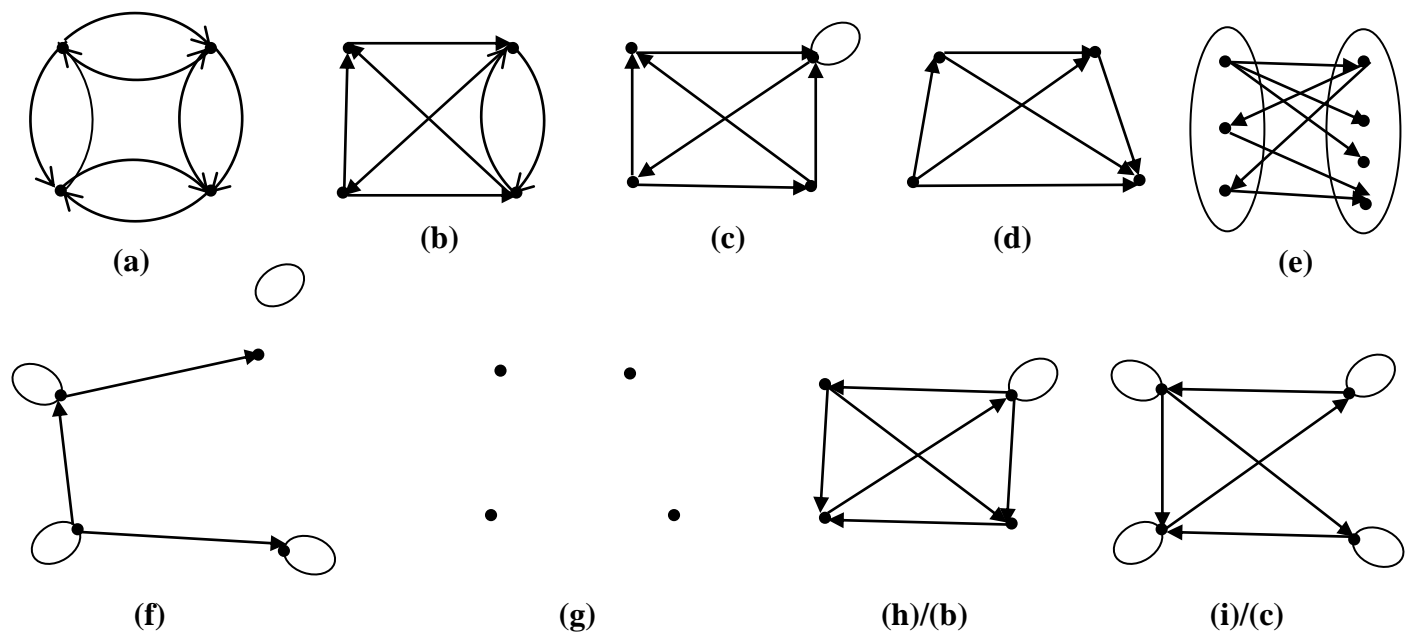
EXERCISE N° 02

Let the graph G(X, U) be such that:

X = {1, 2, 3, 7, 9, 15, 36}   U = { (x, y) / (x, y) $\in$ U   si x divise y}

1. Plot the graph G.

2. Study the characteristics of G

3. What can we say about the divisibility relationship?

4. Are there any circuits in G?

EXERCISE N° 03

Three teachers P1, P2, P3 must give a certain number of hours of lessons to three classes C1, C2 and C3 during this week.

P1 must give one hour of course to C1.

P2 must give one hour of course to C1, two hours to C2 and two hours to C3.

P3 must give one hour of course to C1 and one hour to C3.

Question :   Model this problem using a graph

EXERCISE N° 04

The administration council of a company is composed of seven (07) members: Mrs. G, H, K, S, V and Ms D and P. Each of these people influences a certain number of their colleagues as shown in the table below:
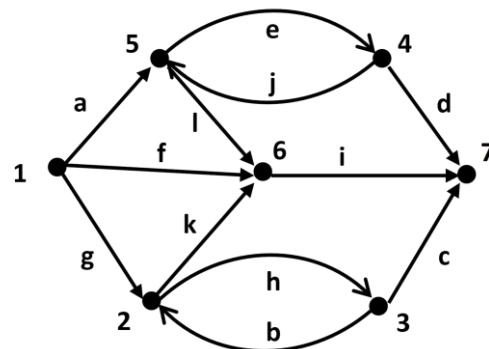
Mr or Mrs	Influence
D	G, H, K, P, S, V
G	None
H	G
K	G, H, P, V
P	G, H
S	G, H, K, P, V
V	G, H

1. Represent the influence game within this council using a graph
2. Give the adjacency matrix of the resulting graph.

EXERCISE N° 05

Let the graph G(X, U) be in the figure below:

1. Represent G using an adjacency matrix.
2. Represent G using an incidence matrix.
3. a list of arcs sorted by terminal end

GOOD LUCK