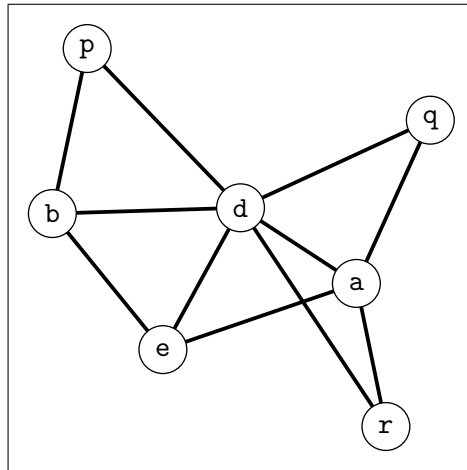


Question 1. For the graph G pictured bellow



give its adjacency list, adjacency matrix and incidence matrix.

Question 2. For the graph G defined in Question 1, describe the adjacency list, adjacency matrix and incidence matrix of the graph $G[a, b, d, e]$.

Question 3. Is the graph G defined in Question 1, isomorphic to the graph H given with the following adjacency matrix

$$\begin{pmatrix} 0 & 1 & 1 & 0 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 0 & 1 \\ 1 & 1 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 \\ 1 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 1 & 0 & 1 & 0 \end{pmatrix}$$

Question 4. For the graph G defined in Question 1. Give

1. a maximal independent set that is not maximum
2. list all maximum independent sets
3. give an independent set that is not maximal

Question 5. Give three pairwise non-isomorphic graphs each with degree sequence 3, 3, 2, 2, 2, 2, 2, 2, 2, 2. Justify why the graphs are not isomorphic to each other.