CON101 Assignment#4-a

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Problem 1.

Let no. of edges, say n, present in the max matching be such that $n \leq 4$. Therefore:

- G_1: Maxmimum matching = $\{(3,7),(4,8),(2,5),(1,6)\}$.
- G_2: Maxmimum matching = $\{(3,7),(4,8),(2,5),(1,6)\}$.

Problem 2.

For a maximum matching, say $|E|$, any other matching $|E_i|$ is such that $|E_i| \leq |E|$. we can find maximum matchings in both of the graphs, graph 3 & 4, as they have more no. of edges to the given matching.

Graph 3

The matching $\{(w1,v1),(w2,v2),(w3,v4),(w4,v3)\}$, which has four edges which is larger than that given in the question. Hence, not a maximum matching.

Graph 4

The matching $\{(w1,v7),(w2,v1),(w3,v3),(w5,v2),(w6,v6),(w7,v8)\}$, which has six edges which is larger than that given in the question. Hence, not a maximum matching.