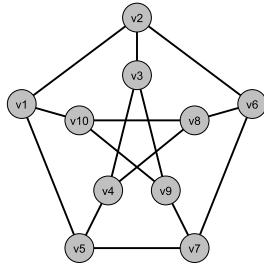
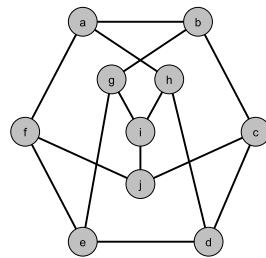
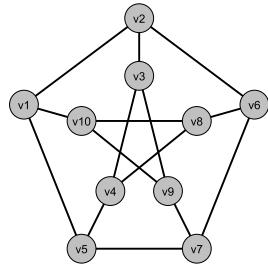


Task 1. Decide whether Petersen graph is bipartite. Find the largest independent set.



Task 2. Show that given two graphs are isomorphic. Hint: Petersen graph consists of two disjoint 5-cycles with pairwise neighbouring vertices.



- Task 3.**
- (i) How many graphs (simple, undirected) on vertex set $\{1, 2, 3, 4\}$ exists?
 - (ii) How many graphs (simple, undirected) on vertex set $\{1, 2, \dots, n\}$ exists?
 - (iii) How many graphs (simple, undirected) on 4 vertices exists, up to isomorphism? Draw them all.