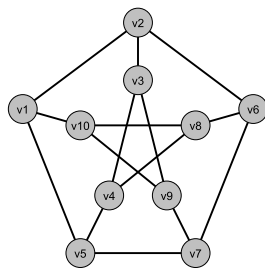
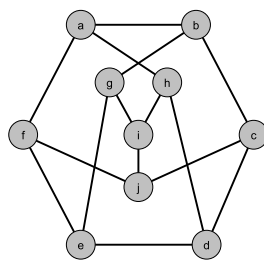
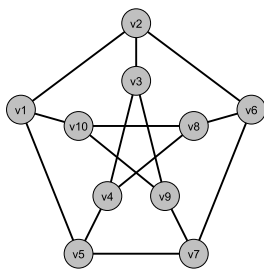


Task 1. *Decide whether Petersen graph is bipartite. Find the largest independent set.*



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.*