Minimal front page

You are given a graph $G = (V, E)$ that represents a domain, where every vertex represents a page in the given domain. If there is an edge from u to v, then there is a link from page u that links to v.

You have been assigned to make a front page (resulting in a new vertex in the graph), that must satisfy the following:

- Every page must be reachable from the front page.
- The front page must contain as few links as possible.

You must describe algorithms that calculate how many links the new front page has to contain, depending on if the graph is:

(a) An undirected graph. Provide a short description of the algorithm with natural language (you may refer to algorithms in the course).

(b) A directed and acyclic graph. Provide a short description of the algorithm with natural language (you may refer to algorithms in the course).

(c) A directed graph (that may contain cycles). Provide a short description of the algorithm with natural language (you may refer to algorithms in the course).