Questions week 1

1. Give the name of a three-word algorithm to detect which vertices are not reachable from the start vertex.

2. What does dominance mean?

3. For what is each of the following term used in the context of the control flow graph?
   (a) successor and the set $\text{succ}(w)$ of vertex $w$
   (b) predecessor and the set $\text{pred}(w)$ of vertex $w$

4. For what is each of the following term used in the context of some tree (e.g. depth first search tree or dominator tree)?
   (a) ancestor
   (b) strict ancestor
   (c) descendant
   (d) strict descendant

5. How can we be sure the iterative algorithm eventually terminates?

6. What is the immediate dominator of a vertex?

7. How can we compute the immediate dominator of a vertex $w$ if we know the set of dominators of $w$?

8. What is a semidominator?

9. What do the $\text{eval}$ and $\text{link}$ functions do in the simplest version of the Lengauer-Tarjan algorithm?