Quiz 7

Q1

Given a graph $G = (V, E)$ where $E = (a, b), (b, c), (b, d), (e, b)$,

1. What are the vertices adjacen to vertex a?

   Answer: b

2. What are the vertices adjacen to vertex b?

   Answer: c, d

Q2

Given an algorithm for a graph with runtime $\Theta(V^2 + ElogV)$, what can we simplify it to if we know the input graphs are sparse?

Answer: $\Theta(V^2)$

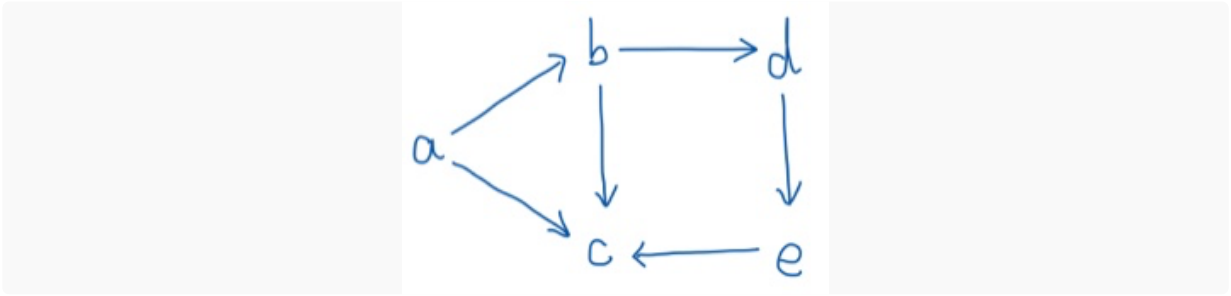
Q3

Given an algorithm for a graph with runtime $\Theta(V^2 + ElogV)$, what can we simplify it to if we know the input graphs are dense?

Answer: $\Theta(V^2 loV)$

Q4

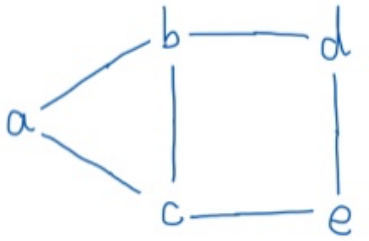
Given the following directed graph, $\langle a, b, c, e \rangle$ is a path from a to e.



Answer: False

Q5

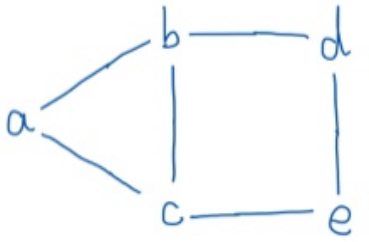
Given the following undirected graph, $\langle a, b, c, e \rangle$ is a path from a to e.



Answer: True

Q6

Given the following undirected graph, $\langle a, b, c, e, c, e \rangle$ is a path from a to e.



Answer: True