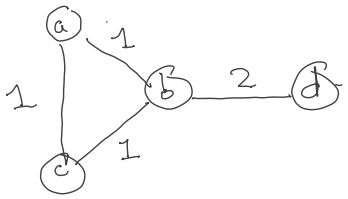
CIS 3223 Short Quiz 4 | **Name:** Solns

Dr Anthony Hughes | **Temple ID (last 4 digits:**

1 Let $G = (V, E)$ be an undirected and connected graph. Determine if each of the following statements are `true` or `false`.

(a) If G has more the $|V| - 1$ edges and there is a unique heaviest edge e, then e cannot be part of any MST.



MST must contain bd

`true` `false`

(b) If the lightest edge e is unique, then it be part of every MST.

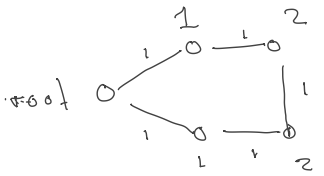
w(cut edge) = w(e)

e unique

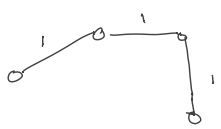
cut edge = e

`true` `false`

(c) The shortest path tree computed by Dijkstra's algorithm is an MST.



cost = 4



cost = 3

`true` `false`

(d) If there is more than one edge with the lightest weight including the edge e, then e must be part of some MST.

e can be chose first in Kruskal's algorithm

`true` `false`