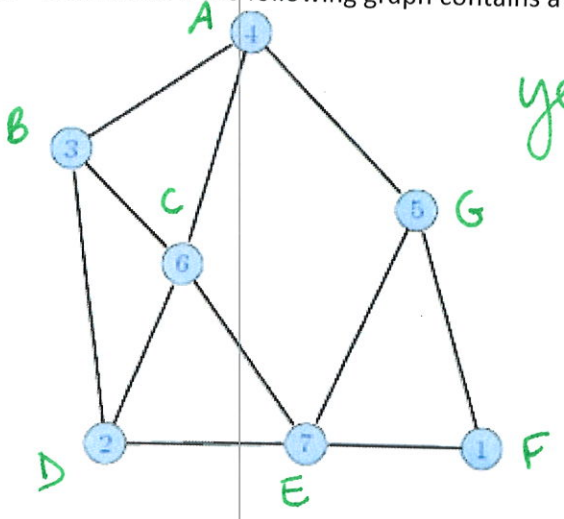
MAT 100, Quiz #4, Summer 2017 Name KEY

Instructions: Show all work. Use exact answers unless otherwise directed to round.

1. Determine if the following graph contains a Hamilton circuit or path (or neither).



yes, circuit exists

follow alphebetically then back to A

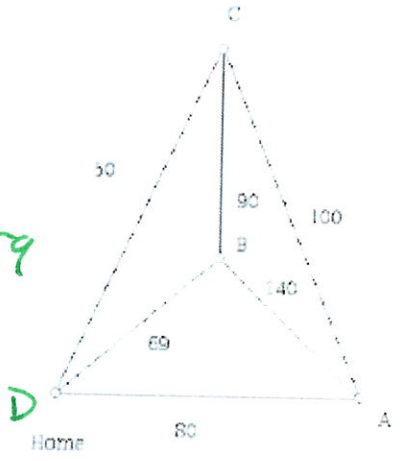
2. Using the K_4 graph below, use the indicated algorithms to find (or approximate) the minimal cost Hamilton circuit. Be sure to clearly state the cost of the final graph.

a. Brute Force

ABCDA = 140 + 90 + 50 + 80 = 360

Cheapest → ADBCA = 80 + 69 + 90 + 100 = 339

ACBDA = 100 + 50 + 69 + 140 = 359



b. Nearest Neighbor starting from Home

DCBAD

50 + 90 + 140 + 80 = 360

c. Cheapest Link/Sorted Edges

359

3. Draw an example of a K_8 graph.