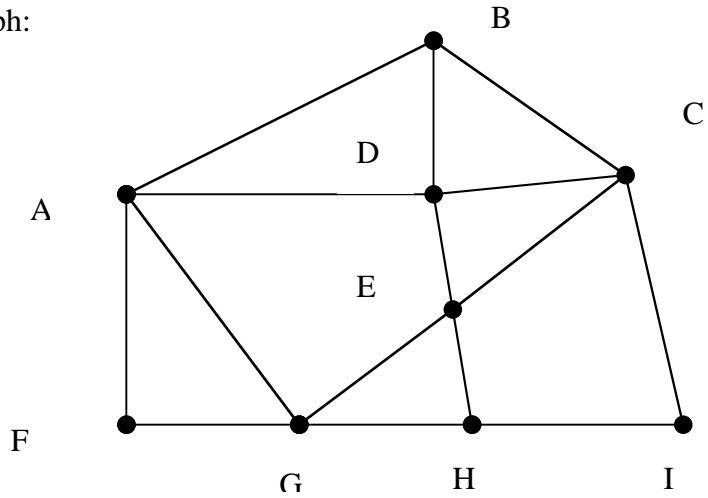


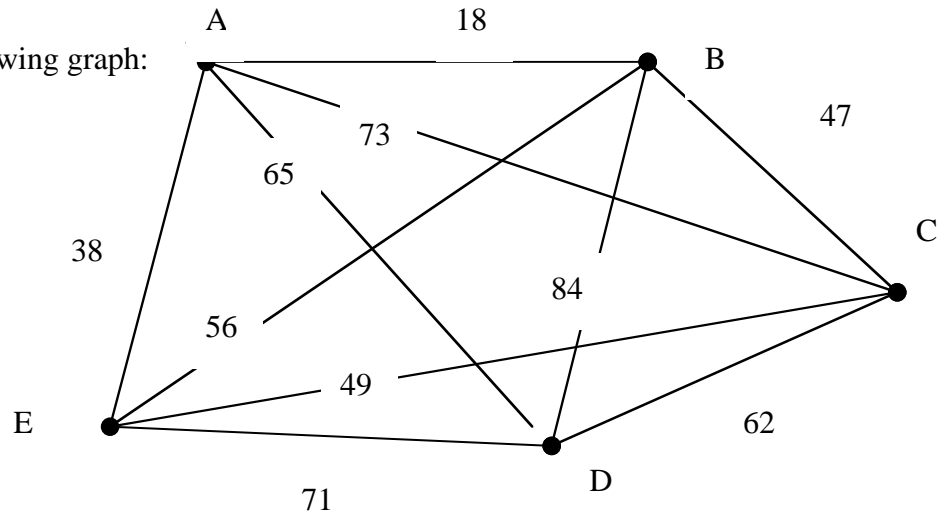
MA 103 QUIZ 3

1. Consider the following graph:



- Does the graph have an Euler circuit? If so, find one; if not, explain why
- Does the graph have an Euler path? If so, find one; if not, explain why.
- Find a Hamilton circuit.

2. Consider the following graph:



- How many Hamilton circuits does this graph have?
- Use the nearest neighbor algorithm to approximate a minimal weight Hamilton circuit starting at A. What is its weight?
- Use the nearest neighbor algorithm to approximate a minimal weight Hamilton circuit starting at B. What is its weight?
- Use the cheapest link algorithm to approximate a minimal weight Hamilton circuit starting at A. What is its weight?

( OVER )

3. The following graph represents a map of the streets of a town. Describe whether each of the following problems involves an Euler circuit or a Hamilton circuit and then write down the circuit beginning and ending at H (Eulerizing if necessary).
- There is a storm sewer at each intersection; after a storm you have to inspect each sewer to make sure that it is not clogged.
  - After a storm you must inspect each street to make sure that it is not blocked by fallen branches.
- You may label the vertices to aid your description.

