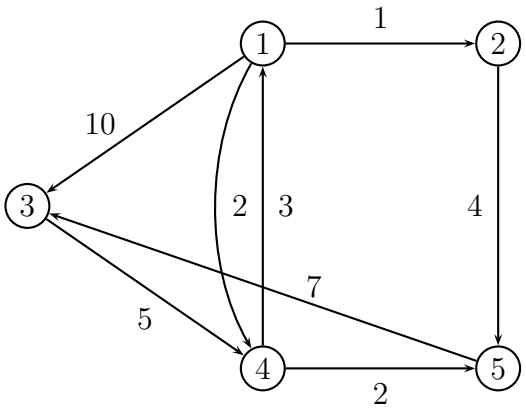
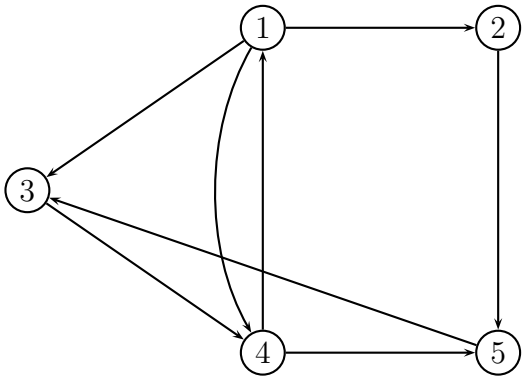
CS280 – Data Structures – Quiz

`DigiPen login:` _____

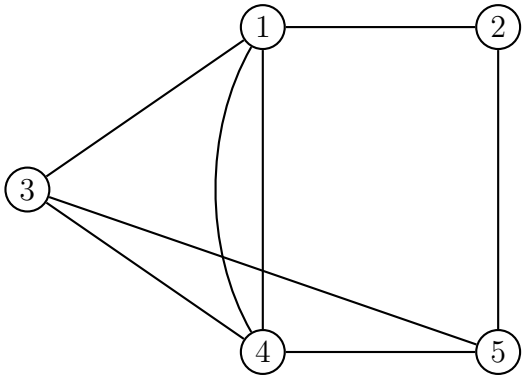
1. For a given directed graph: define the graph using

   - adjacency list
   - adjacency matrix.





2. For the same graph without weights (all weights are 1), answer the following questions:
   - what is the shortest (directed) cycle
   - what is the longest simple (directed) cycle (without visiting the same vertex more than once)
   - what is the shortest path from 5 to 1?
   - does this graph have (directed) *Hamiltonian path* – path that visits **all** vertices of the graph just once



3. For the same graph without weights and directions, answer the following questions:
   - does this graph have *Eulerian path* – path that visits **all** edges of the graph just once (in other words – can you draw the graph without taking pen off the paper and tracing each edge only once).