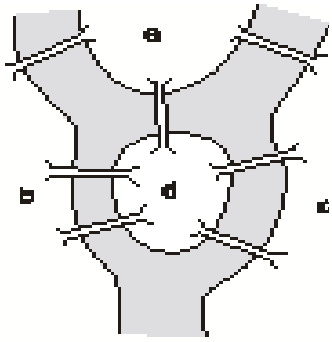
Djilali Bounaâma University, Khemis Miliana
Faculty of Material Sciences and Computer Science
Computer Science Department

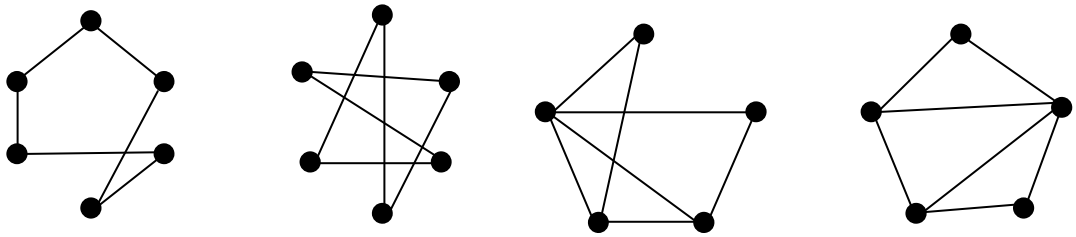
2nd Year Computer Science
Module: Graph Theory

Tutorial Session (1)

Exercise 1: The Königsberg Bridge Problem
In the 18th century, the city of Königsberg consisted of two islands and seven bridges, as shown in the plan below.
The residents wanted to take a walk crossing each bridge exactly once. Draw the graph associated with the city's layout.



Exercise 2: Determine if the following drawings represent the same graph.



G1 G2 G3 G4

Exercise 3: Draw the following graphs:

1. The vertices are the faces of a cube. Two vertices are connected if the corresponding faces share an edge of the cube.
2. The vertices of the graph are all the two-element subsets of {1, 2, 3, 4}, and two vertices are connected if their intersection is non-empty.
3. Graph associated with the situation: Three countries each send two spies to a conference. The spies do not know each other, and each spy must make contact with all the spies from the other countries.