

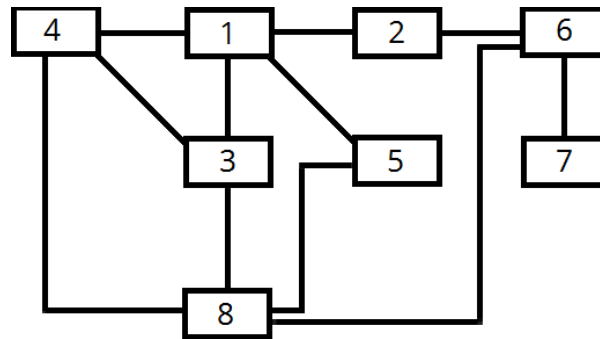
## DATA STRUCTURE

### Lab 7 - Graph and Heap

**Problem 1.** Write a program to create the graph of n vertices using an adjacency matrix. The program should have the following operations:

- Traverse the graph using Breadth-first search method.
- Traverse the graph using Depth-first search method.

The below graph can be used to test your program.



**Problem 2.** Write a program to build a max heap H from the given set of numbers: 45, 36, 54, 27, 63, 72, 61, and 18.

The program can do the following jobs:

- Insert a new element into H.
- Delete an element from H.
- Sorting the numbers in descending order.