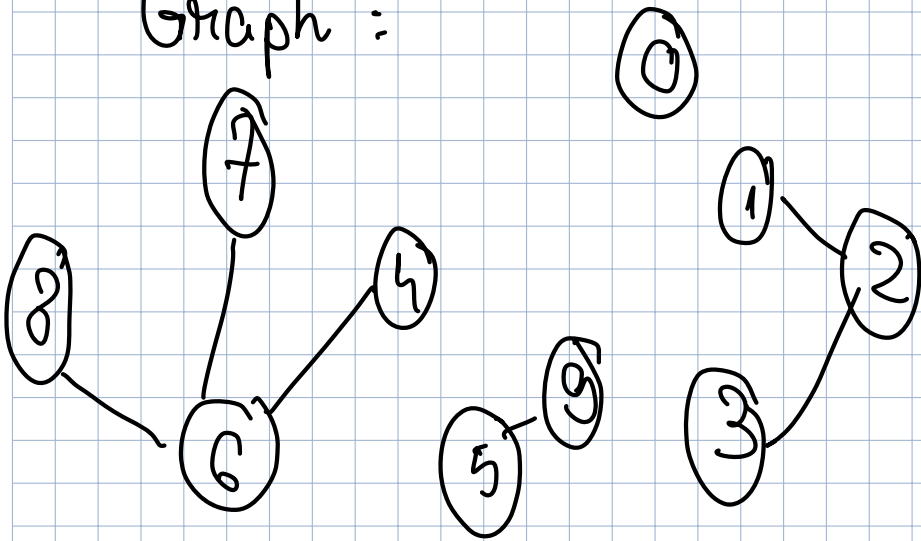


Write a program that finds the connected components of an undirected graph using a breadth-first search.

Graph :



1. Run bfs from 0:

$$1. g = [0]$$

$$met = \{0\}$$

$$ans = [[0]]$$

No neighbors bfs finishes

2. Run bfs from 1

$$1. g = [1]$$

$$met = \{0, 1\}$$

$$ans = [[0], [1]]$$

$$2. g = [2]$$

$$met = \{0, 1, 2\}$$

$$ans = [[0], [1, 2]]$$

$$3. q = [3]$$

$$met = \{0, 1, 2, 3\}$$

$$ans = [[0], [1, 2, 3]]$$

q is empty bfs finishes

3. Run bfs from 4

$$1. q = [4]$$

$$met = \{0, 1, 2, 3, 4\}$$

$$ans = [[0], [1, 2, 3], [4]]$$

$$2. q = [6]$$

$$met = \{0, 1, 2, 3, 4, 6\}$$

$$ans = [[0], [1, 2, 3], [4, 6]]$$

$$3. q = [7, 8]$$

$$met = \{0, 1, 2, 3, 4, 6, 7, 8\}$$

$$ans = [[0], [1, 2, 3], [4, 6, 7, 8]]$$

q is empty bfs finishes

4. Run bfs from 5

$$1. q = [5]$$

$$met = \{0, 1, 2, 3, 4, 5, 6, 7, 8\}$$

$$ans = [[0], [1, 2, 3], [4, 6, 7, 8], [5]]$$

$$2. q = [9]$$

$$met = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$ans = [[0], [1, 2, 3], [4, 6, 7, 8], [5, 9]]$$

q is empty bfs finishes