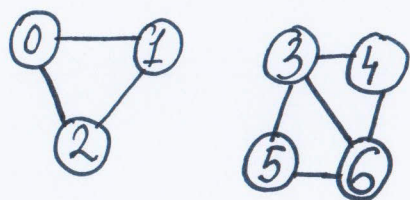


LAB 2. Manual execution Find the connected components of a graph using BFS



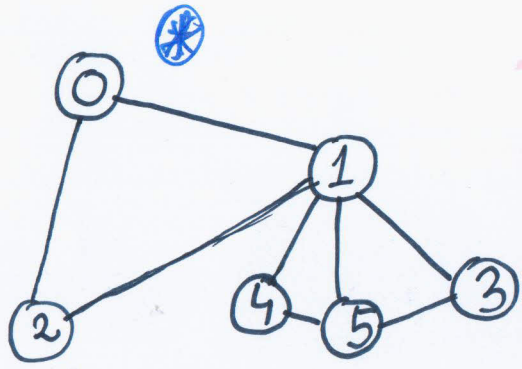
7

Next - dictionary

key	value
0	- [1, 2]
1	- [0, 2]
2	- [0, 1]
3	- [4, 5, 6]
4	- [3, 6]
5	- [3, 6]
6	- [3, 4, 5]
7	- []

	x	y	queue	accessed	visited	connected components
call BFS(g, 0)	0 1 2	1 2	← 0 → ← 1 → ← 2 →	[] [0] [0, 1] [0, 1, 2]	[]	
call BFS(g, 0)	0 1 2	1 2	← 0 → ← 1 → ← 2 →	[] [0] [0, 1] [0, 1, 2]	[0, 1, 2]	0-1-2
call BFS(3)	3 4 5 6	4 5 6	← 3 → ← 4 → ← 5 → ← 6 →	[] [3] [3, 4] [3, 4, 5] [3, 4, 5, 6]	[]	
call BFS(3)	3 4 5 6	4 5 6	← 3 → ← 4 → ← 5 → ← 6 →	[] [3] [3, 4] [3, 4, 5] [3, 4, 5, 6]	[3, 4, 5, 6] [0, 1, 2, 3, 4, 5, 6]	3-4-5-6
call BFS(7)	7		← 7 →	[7]		
call BFS(7)	7		← 7 →	[7]	[0, 1, 2, 3, 4, 5, 6, 7]	7

LAB 2 Manual execution



call BFS(g, 0)

	x	y	queue	accessed	visited
					[]
call BFS(g, 0)	0	1	<u>0</u>	{ } empty [0]	
		2	<u>1</u>	[0, 1]	
		3	<u>2</u>	[0, 1, 2]	
	1	4	<u>3</u>	[0, 1, 2, 3]	
		5	<u>4</u>	[0, 1, 2, 3, 4]	
			<u>5</u>	[0, 1, 2, 3, 4, 5]	
	2				
	3				
	4				
	5				
					{0, 1, 2, 3, 4, 5}
					connected comp *

Next dictionary

key	value
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

0	- [1, 2]
1	- [0, 2, 3, 4, 5]
2	- [0, 1]
3	- [1, 5]
4	- [1, 5]
5	- [1, 3, 4]

$\{0, 1, 2, 3, 4, 5\}$ Connex
Comp
⊗