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Q1

Directed graph

Q2

Adjacency matrix

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ad | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| library | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| ict | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| eng | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| labs | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| cafe | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Res A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Res B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| main | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| sport | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Ad library ict dep eng labs café res A RES b main Sport

Making the nodes numerical

0: admin building

1: library

2: ICT department

3: Engineering block

4: science labs

5: cafeteria

6: Residence A

7: Residence B

8: Main Entrance

9: Sports complex

Q3

Adjacency list

0 – 1

1-2,9

2-3

3-4

4-5

5-6

6-7

7-8

8-0

9-…