

Louvain Homework

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```
CREATE
  (nAlice:User {name: 'Alice', seed: 42}),
  (nBridget:User {name: 'Bridget', seed: 42}),
  (nCharles:User {name: 'Charles', seed: 42}),
  (nDoug:User {name: 'Doug'}),
  (nMark:User {name: 'Mark'}),
  (nMichael:User {name: 'Michael'}),

  (nAlice)-[:LINK {weight: 1}]->(nBridget),
  (nAlice)-[:LINK {weight: 1}]->(nCharles),
  (nCharles)-[:LINK {weight: 1}]->(nBridget),

  (nAlice)-[:LINK {weight: 5}]->(nDoug),

  (nMark)-[:LINK {weight: 1}]->(nDoug),
  (nMark)-[:LINK {weight: 1}]->(nMichael),
  (nMichael)-[:LINK {weight: 1}]->(nMark);
```

\$ CREATE (nAlice:User {name: 'Alice', seed: 42}), (nBridget:User {name: 'Bridget', seed: 42}), (nCharles:User {name: 'Charles', seed: 42}), (nDoug:User {name: 'Doug'}), (nMark:User {name: 'Mark'}), (nMichael:User {name: 'Michael'})



Added 6 labels, created 6 nodes, set 16 properties, created 7 relationships, completed after 416 ms.



Code

Added 6 labels, created 6 nodes, set 16 properties, created 7 relationships, completed after 416 ms.

```
CALL gds.graph.create(
  'myGraph',
  'User',
  {
    LINK: {
      orientation: 'UNDIRECTED'
    }
  },
  {
    nodeProperties: 'seed',
    relationshipProperties: 'weight'
  }
);
```

)

```
$ CALL gds.graph.create( 'myGraph', 'User', { LINK: { orientation: 'UNDIRECTED' } }, { nodePr...
```

	graphName	nodeProjection	relationshipProjection	nodeCount	relationshipCount	createMillis
1	"myGraph"	<pre>{ "User": { "properties": { "seed": { "property": "seed", "defaultValue": NaN } }, "label": "User" } }</pre>	<pre>{ "LINK": { "orientation": "UNDIRECTED", "aggregation": "DEFAULT", "type": "LINK", "properties": { "weight": { "property": "weight", "defaultValue": NaN, "aggregation": "DEFAULT" } } } }</pre>	6	14	85

Started streaming 1 records after 133 ms and completed after 136 ms.

```
CALL gds.louvain.stream('myGraph')
YIELD nodeId, communityId, intermediateCommunityIds
RETURN gds.util.asNode(nodeId).name AS name, communityId,
intermediateCommunityIds
ORDER BY name ASC
```

```
$ CALL gds.louvain.stream('myGraph') YIELD nodeId, communityId, intermediateCommunityIds RETU...
```

	name	communityId	intermediateCommunityIds
1	"Alice"	2	null
2	"Bridget"	2	null
3	"Charles"	2	null
4	"Doug"	5	null
5	"Mark"	5	null
6	"Michael"	5	null

Started streaming 6 records after 157 ms and completed after 157 ms.

```
CALL gds.louvain.stats('myGraph')
YIELD communityCount
```

\$ CALL gds.louvain.stats('myGraph') YIELD communityCount

communityCount	
1	2

Started streaming 1 records after 58 ms and completed after 60 ms.

```
CALL gds.louvain.mutate('myGraph', { mutateProperty: 'communityId' })
YIELD communityCount, modularity, modularities
```

\$ CALL gds.louvain.mutate('myGraph', { mutateProperty: 'communityId' }) YIELD communityCount,...

communityCount	modularity	modularities
1	2	0.3571428571428571
		[0.3571428571428571]

Started streaming 1 records after 51 ms and completed after 51 ms.