

Query 1

```
1 MATCH p=(stephen:Hero {name: 'DR. STRANGE/STEPHEN'})-[:APPEARED*0..2]-(victor:Hero {name: 'DR. DOOM/VICTOR VON'})
2 RETURN p, length(p)
3 ORDER BY length(p)
4 LIMIT 1
```

\$ MATCH p=(stephen:Hero {name: 'DR. STRANGE/STEPHEN'})-[:APPEARED*0..2]-(victor:Hero {name: 'DR. DOOM/VICTOR VON'})

"p"	"length(p)"
[{"name": "DR. STRANGE/STEPHEN", "degree": 777}, {"w": 12}, {"name": "DR. DOOM/VICTOR VON", "degree": 441}]	1

The shortest path is one edge between Dr. Strange/Stephen and Doom/Victor Von.

Query 2

```
1 MATCH p=(stephen:Hero {name: 'DR. STRANGE/STEPHEN'})-[:APPEARED*0..2]-(victor:Hero {name: 'DR. DOOM/VICTOR VON'})
2 RETURN p, length(p)
3 ORDER BY length(p)
4 LIMIT 5
```

\$ MATCH p=(stephen:Hero {name: 'DR. STRANGE/STEPHEN'})-[:APPEARED*0..2]-(victor:Hero {name: 'DR. DOOM/VICTOR VON'})

"p"	"length(p)"
[{"name": "DR. STRANGE/STEPHEN", "degree": 777}, {"w": 12}, {"name": "DR. DOOM/VICTOR VON", "degree": 441}]	1
[{"name": "DR. STRANGE/STEPHEN", "degree": 777}, {"w": 8}, {"name": "DR. DOOM/VICTOR VON", "degree": 441}]	1
[{"name": "DR. STRANGE/STEPHEN", "degree": 777}, {"w": 3}, {"name": "BALDER [ASGARDIAN]", "degree": 224}, {"name": "BALDER [ASGARDIAN]", "degree": 224}, {"w": 2}, {"name": "DR. DOOM/VICTOR VON", "degree": 441}]	2
[{"name": "DR. STRANGE/STEPHEN", "degree": 777}, {"w": 42}, {"name": "SILVER SURFER/NORRIN", "degree": 466}, {"name": "SILVER SURFER/NORRIN", "degree": 466}, {"w": 10}, {"name": "DR. DOOM/VICTOR VON", "degree": 441}]	2
[{"name": "DR. STRANGE/STEPHEN", "degree": 777}, {"w": 28}, {"name": "SILVER SURFER/NORRIN", "degree": 466}, {"name": "SILVER SURFER/NORRIN", "degree": 466}, {"w": 10}, {"name": "DR. DOOM/VICTOR VON", "degree": 441}]	2

Query 3

```
1 MATCH (peter:Hero { name: 'COLOSSUS II/PETER RA' })-[:APPEARED*2..2]-(friend_of_friend)
2 WHERE NOT (peter)-[:APPEARED]-(friend_of_friend)
3 AND friend_of_friend.name <> 'COLOSSUS II/PETER RA'
4 RETURN friend_of_friend.name, COUNT(*)
5 ORDER BY COUNT(*) DESC , friend_of_friend.name
6 LIMIT 5
```

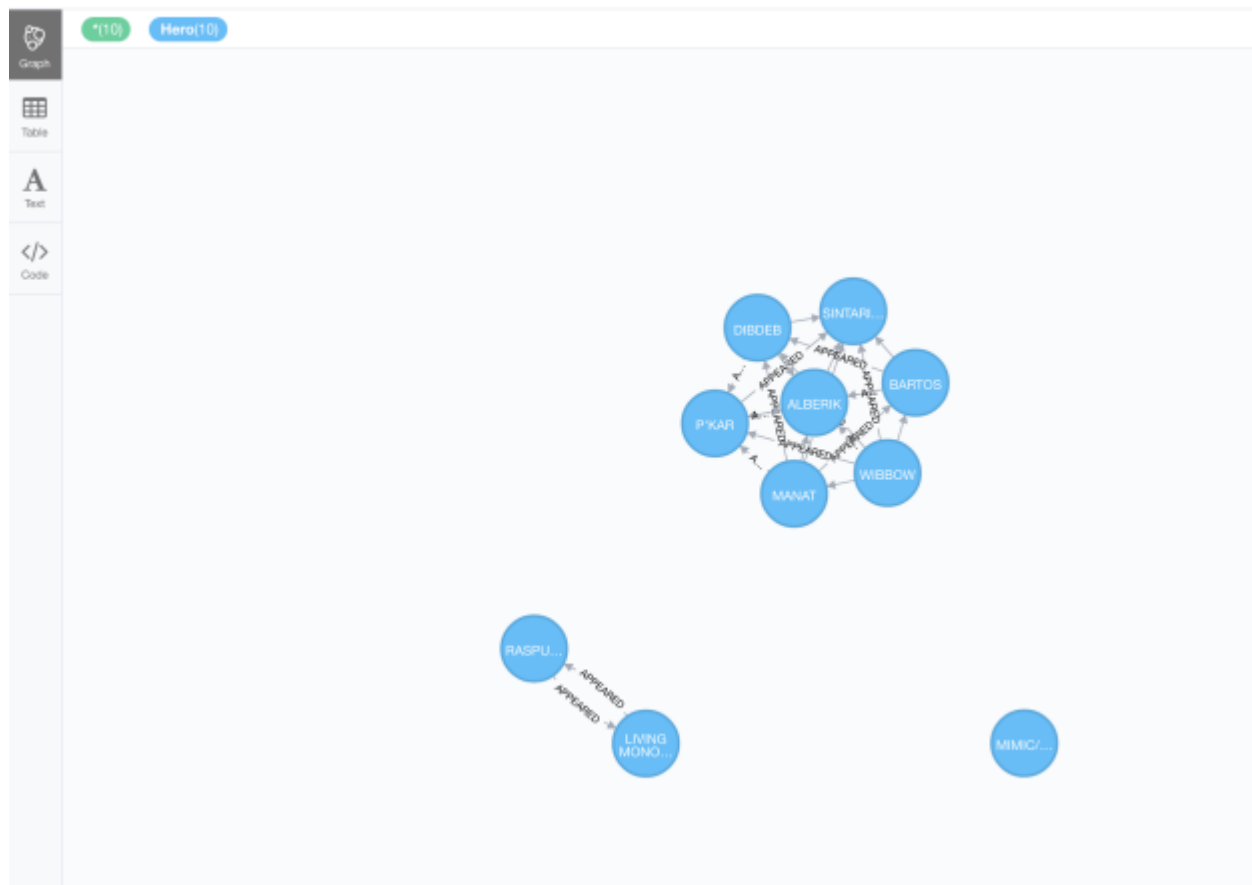
```
$ MATCH (peter:Hero { name: 'COLOSSUS II/PETER RA' })-[:APPEARED*2..2]-(friend_of_friend) WHERE NOT (peter)-[:A...
```

friend_of_friend.name	COUNT(*)
"WONG"	453
"MOONSTONE II/KARLA S"	370
"CARTER, PEGGY"	367
"POWER MAN/ERIK JOSTE"	350
"KINGPIN/WILSON FISK"	342

Query 4

```
1 MATCH (tony:Hero { name: 'IRON MAN/TONY STARK' })-[:APPEARED*2..2]-(friend_of_friend)
2 WHERE NOT (tony)-[:APPEARED]-(friend_of_friend)
3 AND friend_of_friend.name <> 'IRON MAN/TONY STARK'
4 RETURN friend_of_friend
5 LIMIT 10
```

```
$ MATCH (tony:Hero { name: 'IRON MAN/TONY STARK' })-[:APPEARED*2..2]-(friend_of_friend) WHERE NOT (tony)-[:APPEARED]-(friend_of...
```



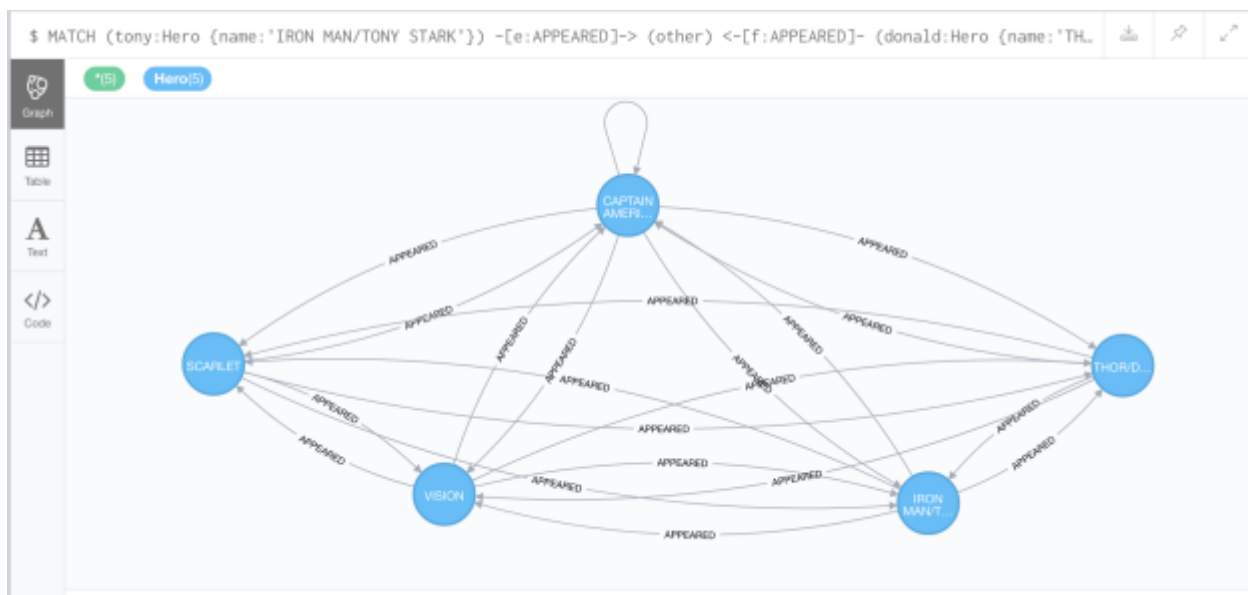
Query 5.1

```
1 MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other) <-[f:APPEARED]- (donald:Hero {name:'THOR/DR. DONALD BLAK'})
2 RETURN tony, donald, other
3 ORDER BY e.w DESC, f.w DESC
4 LIMIT 3
```

List:

- 1) Iron Man/Tony Stark
- 2) Thor/ Dr. Donald Black
- 3) Captain America
- 4) Scarlet Witch/Wanda
- 5) Vision

This graph is fully connected.



Query 5.2

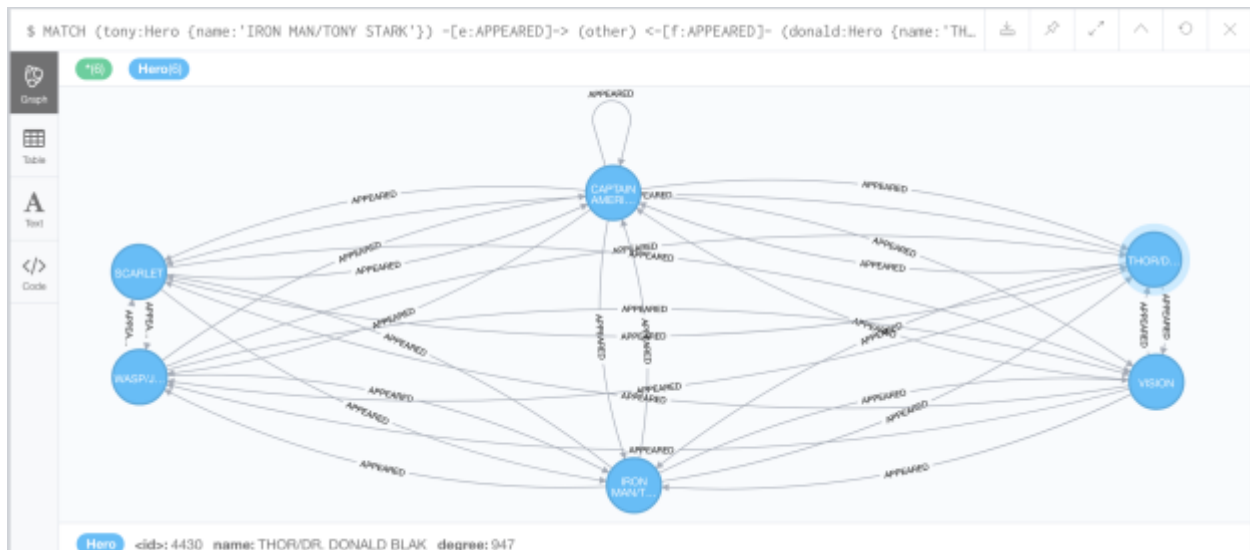
```
1 MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other) <-[f:APPEARED]- (donald:Hero {name:'THOR/DR. DONALD BLAK'})
2 RETURN tony, donald, other
3 ORDER BY e.w DESC, f.w DESC
4 LIMIT 4
```

List:

- 1) Iron Man/Tony Stark

- 2) Thor/ Dr. Donald Black
- 3) Captain America
- 4) Scarlet Witch/Wanda
- 5) Vision
- 6) WASP/ Janet Van Dyne

This graph is fully connected.



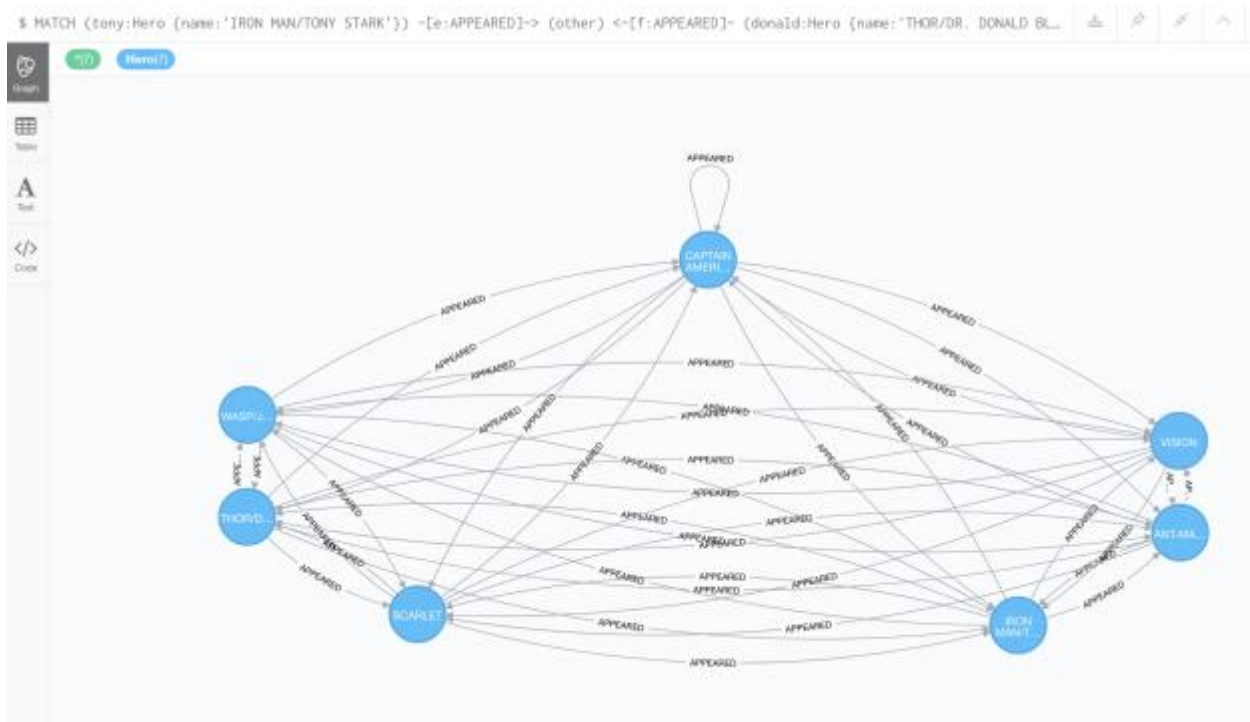
Query 5.3

```
1 MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other) <-[f:APPEARED]- (donald:Hero {name:'THOR/DR. DONALD BLACK'})
2 RETURN tony, donald, other
3 ORDER BY e.w DESC, f.w DESC
4 LIMIT 5
```

List:

- 1) Iron Man/Tony Stark
- 2) Thor/ Dr. Donald Black
- 3) Captain America
- 4) Scarlet Witch/Wanda
- 5) Vision
- 6) WASP/ Janet Van Dyne
- 7) Ant Man/ Dr. Henry J.

This graph is fully connected.



Query 5.4

```

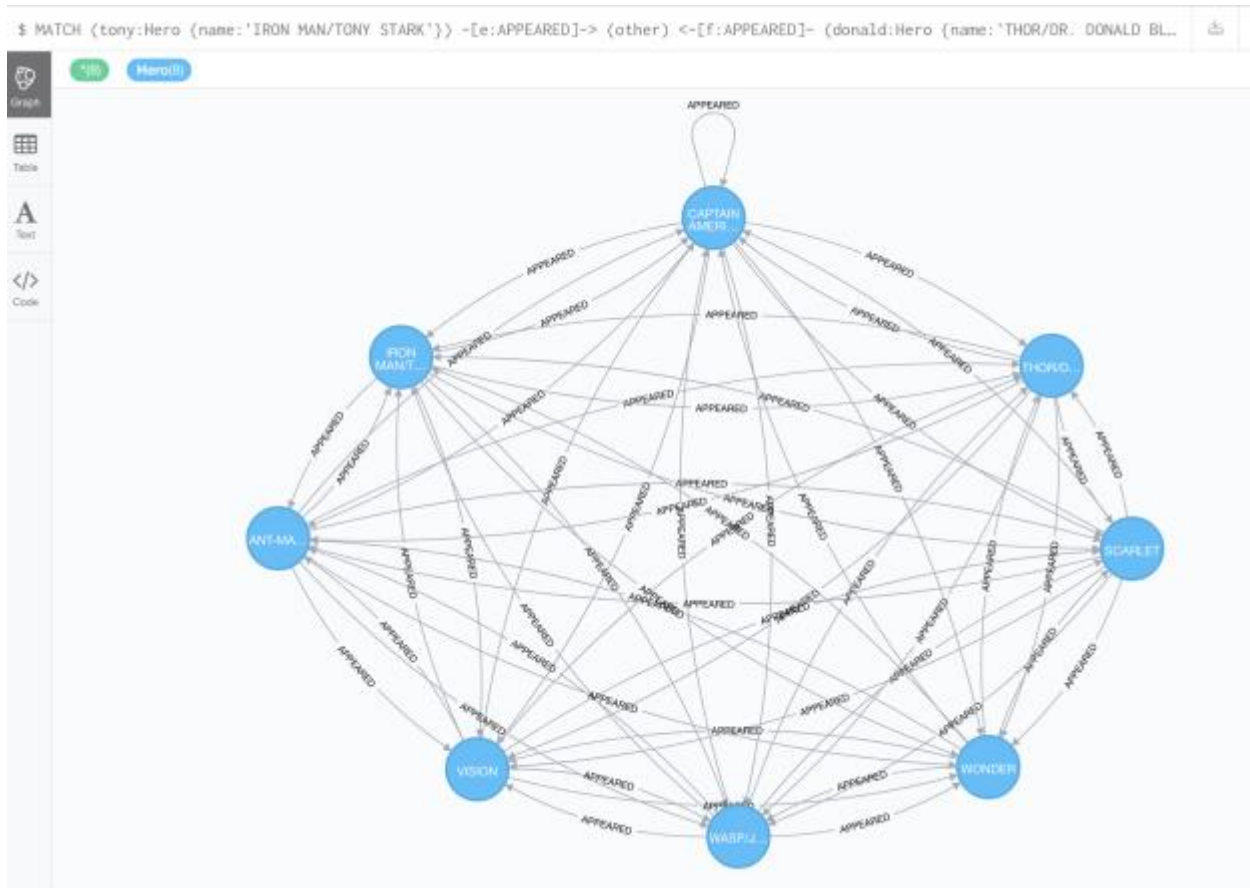
1 MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other) <-[f:APPEARED]- (donald:Hero
   {name:'THOR/DR. DONALD BLAK'})
2 RETURN tony, donald, other
3 ORDER BY e.w DESC, f.w DESC
4 LIMIT 6

```

List:

- 1) Iron Man/Tony Stark
- 2) Thor/ Dr. Donald Black
- 3) Captain America
- 4) Scarlet Witch/Wanda
- 5) Vision
- 6) WASP/ Janet Van Dyne
- 7) Ant Man/ Dr. Henry J.
- 8) Wonder Man/ Simon Wil

This graph is fully connected.



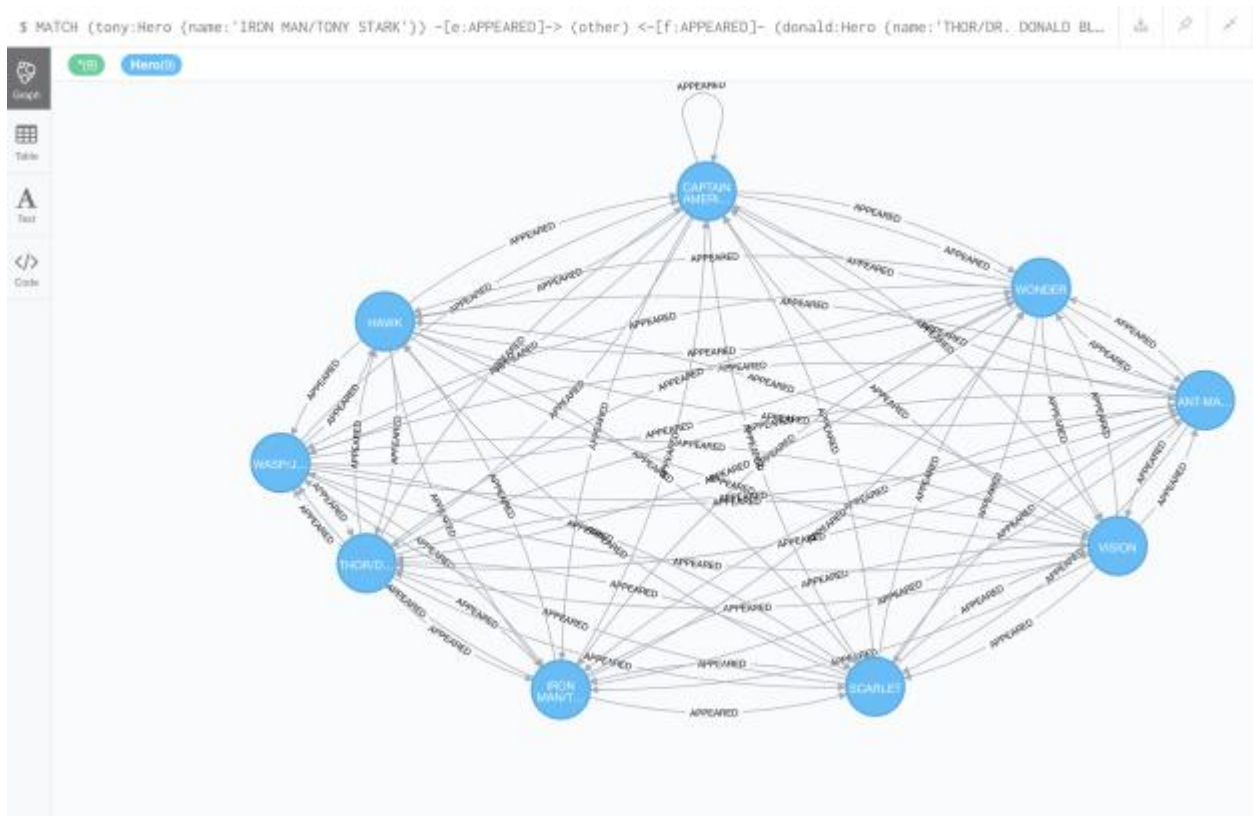
Query 5.5

```
1 MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other) <-[f:APPEARED]- (donald:Hero {name:'THOR/DR. DONALD BLAK'})
2 RETURN tony, donald, other
3 ORDER BY e.w DESC, f.w DESC
4 LIMIT 7
```

List:

- 1) Iron Man/Tony Stark
- 2) Thor/ Dr. Donald Black
- 3) Captain America
- 4) Scarlet Witch/Wanda
- 5) Vision
- 6) WASP/ Janet Van Dyne
- 7) Ant Man/ Dr. Henry J.
- 8) Wonder Man/ Simon Wil
- 9) Hawk

This graph is fully connected.



Query 5.6

```
1 MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other) <-[f:APPEARED]- (donald:Hero {name:'THOR/DR. DONALD BLAK'})
2 RETURN tony, donald, other
3 ORDER BY e.w DESC, f.w DESC
4 LIMIT 8
```

List:

- 1) Iron Man/Tony Stark
- 2) Thor/ Dr. Donald Black
- 3) Captain America
- 4) Scarlet Witch/Wanda
- 5) Vision
- 6) WASP/ Janet Van Dyne
- 7) Ant Man/ Dr. Henry J.
- 8) Wonder Man/ Simon Wil
- 9) Hawk
- 10) Iron Man IV/ James R.

This graph is fully connected.


```
$ MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other) <-[f:APPEARED]- (donald:Hero {name:'THOR/DR. DONALD BL...
```

