

Lab 9- W205 Section 3 Spring 2017

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What is the shortest path between DR. STRANGE and DR. DOOM?

Query

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

The shortest path is 1

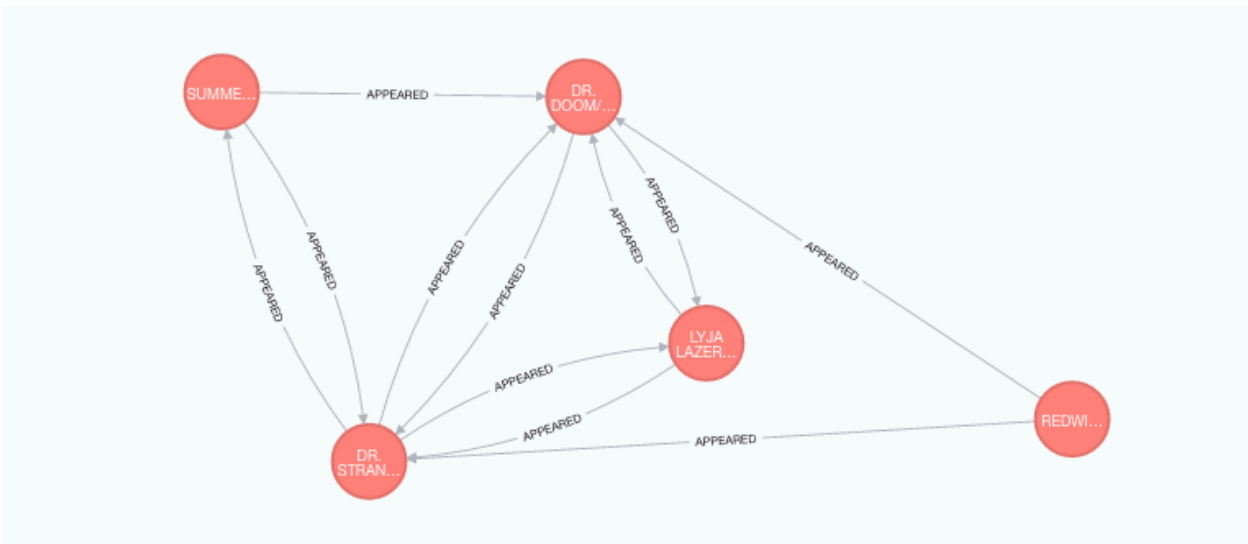
| "p" | "length(p)" |
|---|-------------|
| [{"name":"DR. STRANGE/STEPHEN", "degree":"777"}, {"w":"8"}, {"name":"DR. DOOM/VICTOR VON", "degree":"441"}] | "1" |

List the 5 shortest paths between DR. STRANGE and DR. DOOM

Query

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

The five shortest paths are



| "p" | "length(p)" |
|--|-------------|
| [{"name":"DR. STRANGE/STEPHEN","degree":"777"}, {"w":"8"}, {"name":"DR. DOOM/VICTOR VON","degree":"441"}] | "1" |
| [{"name":"DR. STRANGE/STEPHEN","degree":"777"}, {"w":"12"}, {"name":"DR. DOOM/VICTOR VON","degree":"441"}] | "1" |
| [{"name":"DR. STRANGE/STEPHEN","degree":"777"}, {"w":"1"}, {"name":"REDWING","degree":"175"}, {"name":"REDWING","degree":"175"}, {"w":"1"}, {"name":"DR. DOOM/VICTOR VON","degree":"441"}] | "2" |
| [{"name":"DR. STRANGE/STEPHEN","degree":"777"}, {"w":"1"}, {"name":"SUMMERS, NATHAN CHRI","degree":"422"}, {"name":"SUMMERS, NATHAN CHRI","degree":"422"}, {"w":"1"}, {"name":"DR. DOOM/VICTOR VON","degree":"441"}] | "2" |
| [{"name":"DR. STRANGE/STEPHEN","degree":"777"}, {"w":"3"}, {"degree":"197", "name":"LYJA LAZERFIST [SKRU"]}, {"degree":"197", | "2" |

List 5 Friends of Friends with the most connections and COLOSSUS II.

Query

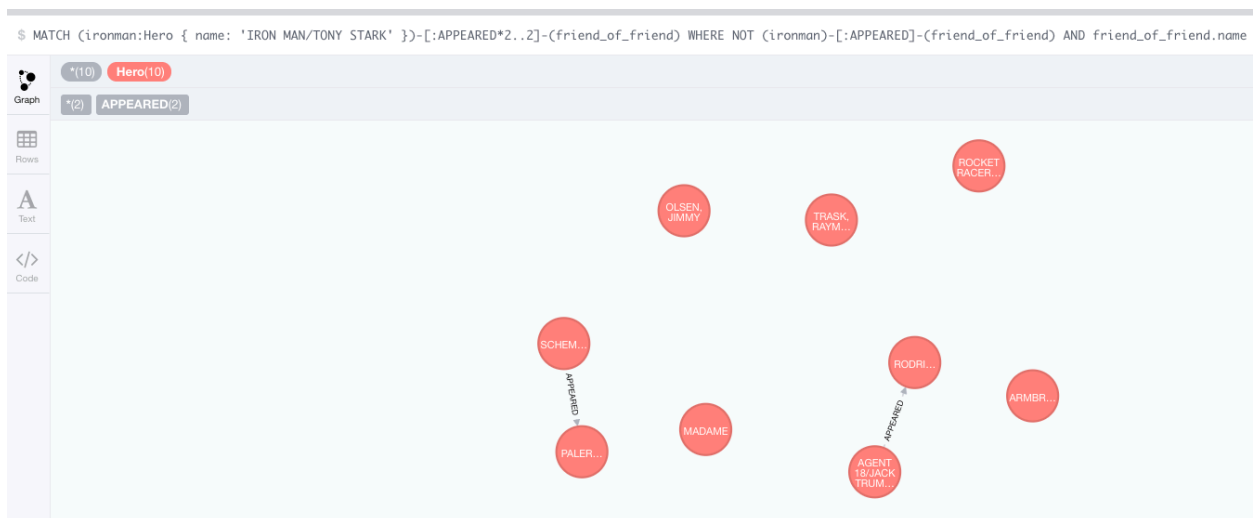
```
MATCH (collosos:Hero { name: 'COLOSSUS II/PETER RA' })-[:APPEARED*2..2]-(friend_of_friend) WHERE NOT (collosos)-[:APPEARED]-(friend_of_friend) AND friend_of_friend.name <> 'COLOSSUS II/PETER RA' RETURN friend_of_friend.name, COUNT(*) ORDER BY COUNT(*) DESC , friend_of_friend.name LIMIT 5
```

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

Visualize 10 Friends of friends for IRON MAN

Query

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

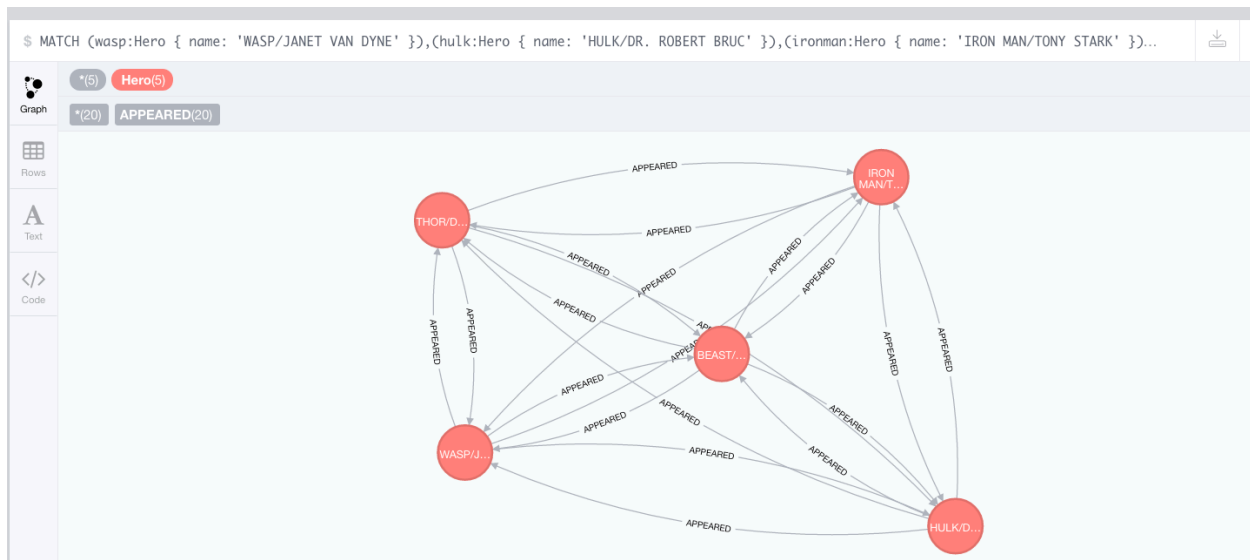


Discover how the Avengers grew over time from 5 to 10. Find team members starting with 5 and incrementing to 10. Who was added to the team? Is the resulting graph ever not fully connected?

Original 5

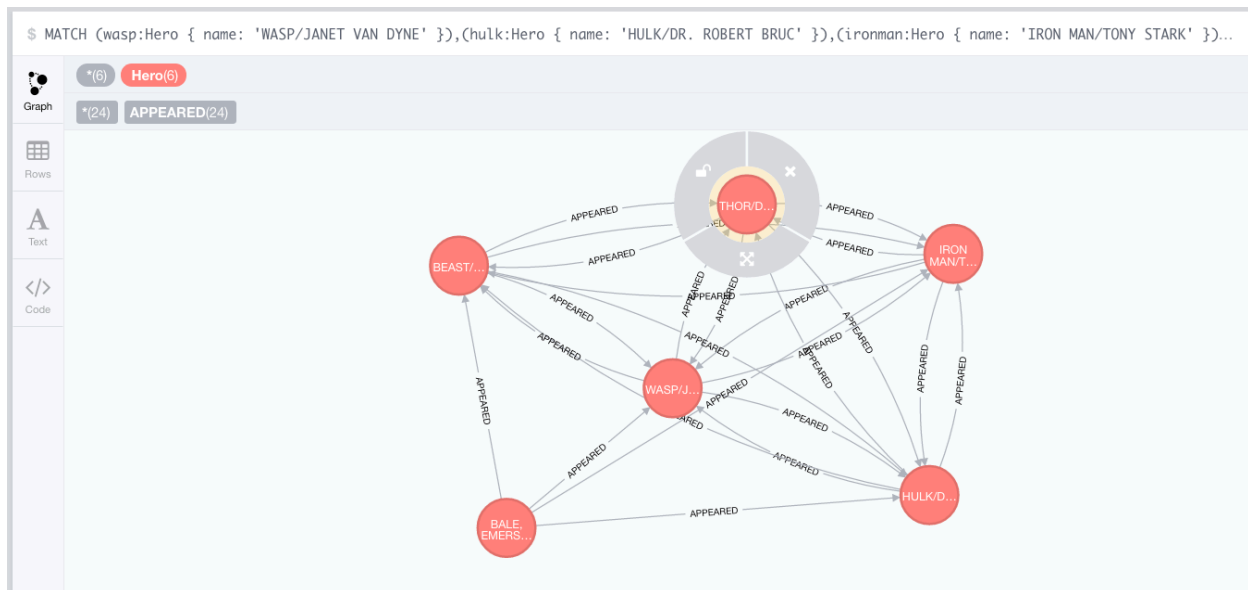
```
MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }),(hulk:Hero { name: 'HULK/DR. ROBERT BRUC' }),(ironman:Hero { name: 'IRON MAN/TONY STARK' }),(thor:Hero { name: 'THOR/DR. DONALD BLAK' }),(beast:Hero { name: 'BEAST/HENRY &HANK& P' })
```

```
return wasp,hulk,ironman,thor,beast
```



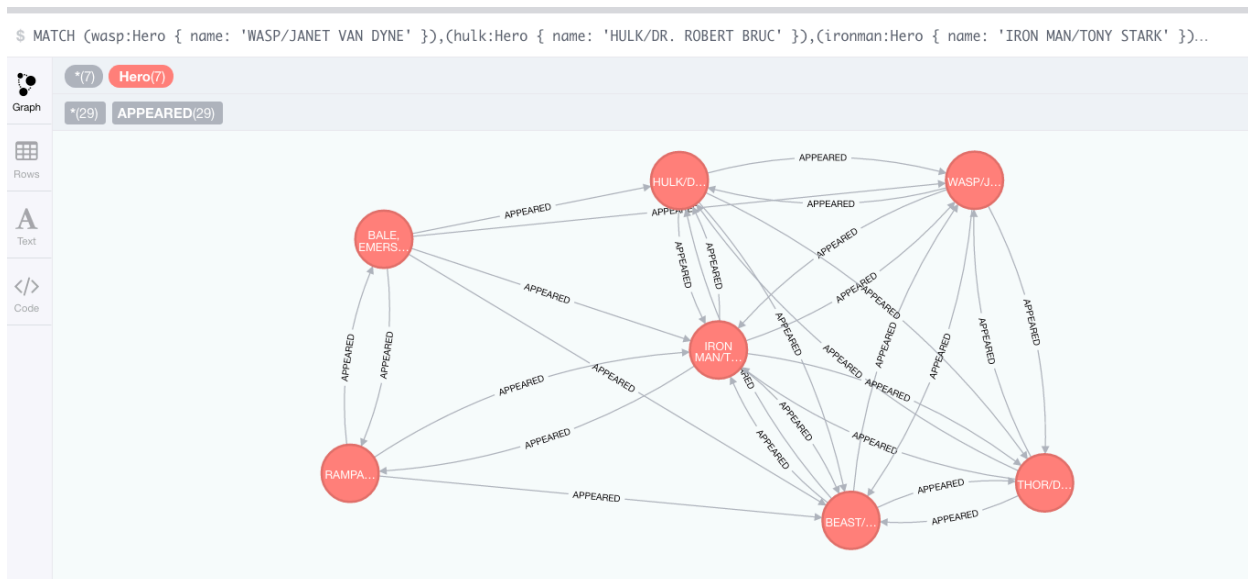
Plus 1 – Bale, Embers

```
MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }),(hulk:Hero { name: 'HULK/DR. ROBERT BRUC' }),(ironman:Hero { name: 'IRON MAN/TONY STARK' }),(thor:Hero { name: 'THOR/DR. DONALD BLAK' }),(beast:Hero { name: 'BEAST/HENRY &HANK& P' })-[:APPEARED*1..1]-(:friend)  
return wasp,hulk,ironman,thor,beast,friend  
limit 1
```



Plus 2 – Rampa

MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }), (hulk:Hero { name: 'HULK/DR. ROBERT BRUC' }), (ironman:Hero { name: 'IRON MAN/TONY STARK' }), (thor:Hero { name: 'THOR/DR. DONALD BLAK' }), (beast:Hero { name: 'BEAST/HENRY & HANK & P' })-[:APPEARED*1..1]-(friend)
return wasp,hulk,ironman,thor,beast,friend
limit 2

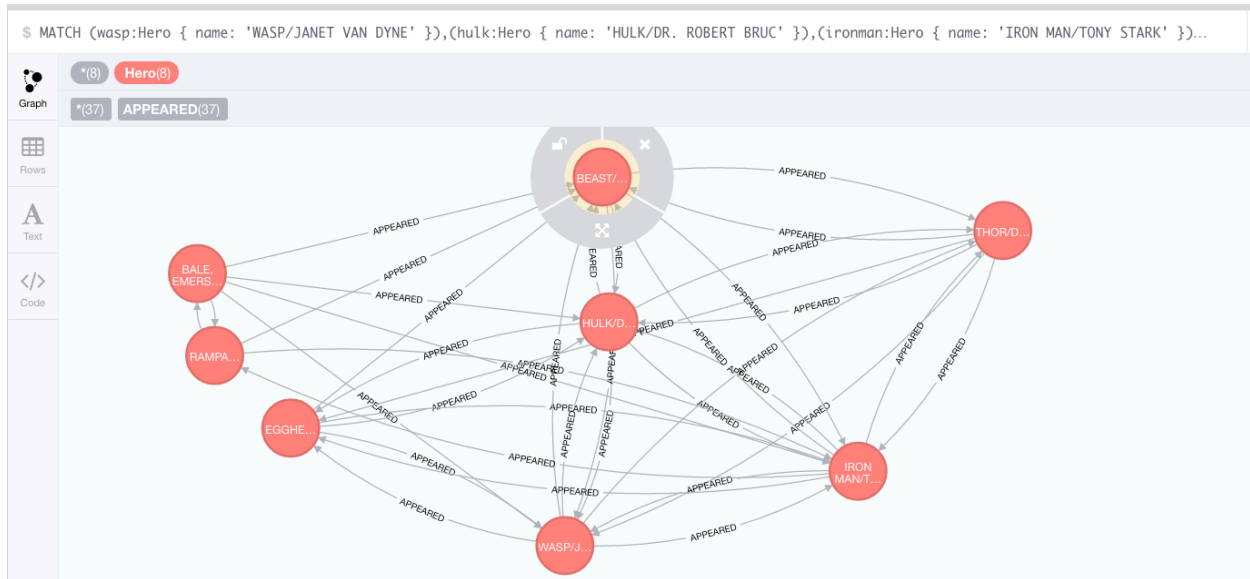


Plus 3 – EggHead

```

MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }),(hulk:Hero { name:
'HULK/DR. ROBERT BRUC' }),(ironman:Hero { name: 'IRON MAN/TONY STARK'
}),(thor:Hero { name: 'THOR/DR. DONALD BLAK' }),(beast:Hero { name:
'BEAST/HENRY & HANK& P' })-[:APPEARED*1..1]-(friend)
return wasp,hulk,ironman,thor,beast,friend
limit 3

```



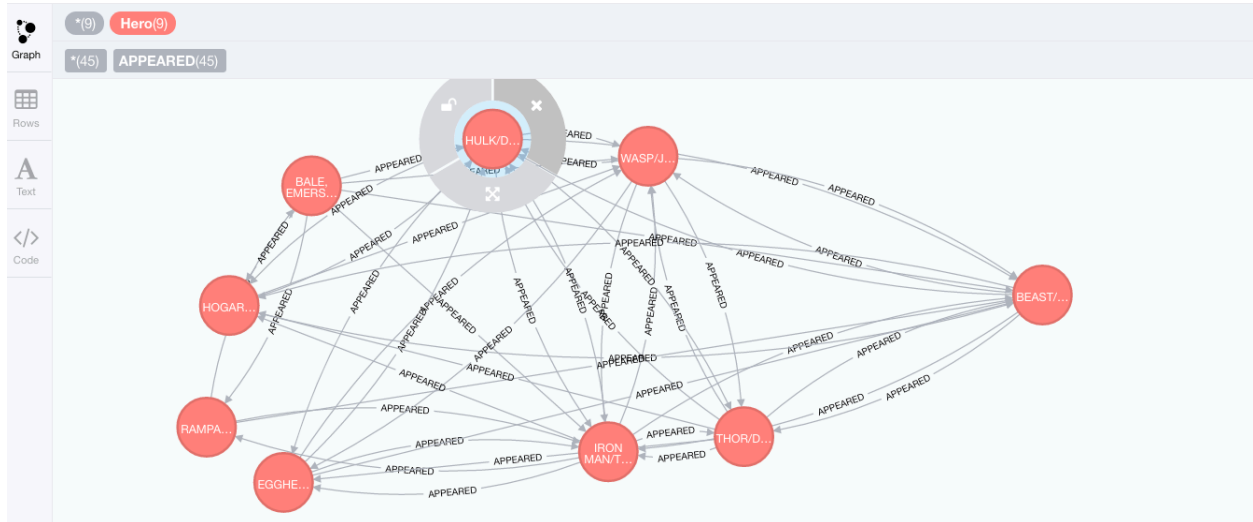
Plus 4 – Hogar

```

MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }),(hulk:Hero { name:
'HULK/DR. ROBERT BRUC' }),(ironman:Hero { name: 'IRON MAN/TONY STARK'
}),(thor:Hero { name: 'THOR/DR. DONALD BLAK' }),(beast:Hero { name:
'BEAST/HENRY & HANK& P' })-[:APPEARED*1..1]-(friend)
return wasp,hulk,ironman,thor,beast,friend
limit 4

```

```
$ MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }),(hulk:Hero { name: 'HULK/DR. ROBERT BRUC' }),(ironman:Hero { name: 'IRON MAN/TONY STARK' })...
```



Plus 5 – Power

```
MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }),(hulk:Hero { name:
'HULK/DR. ROBERT BRUC' }),(ironman:Hero { name: 'IRON MAN/TONY STARK'
}),(thor:Hero { name: 'THOR/DR. DONALD BLAK' }),(beast:Hero { name:
'BEAST/HENRY & HANK& P' })-[:APPEARED*1..1]-(friend)
return wasp,hulk,ironman,thor,beast,friend
limit 5
```

```
$ MATCH (wasp:Hero { name: 'WASP/JANET VAN DYNE' }),(hulk:Hero { name: 'HULK/DR. ROBERT BRUC' }),(ironman:Hero { name: 'IRON MAN/TONY STARK' })...
```

