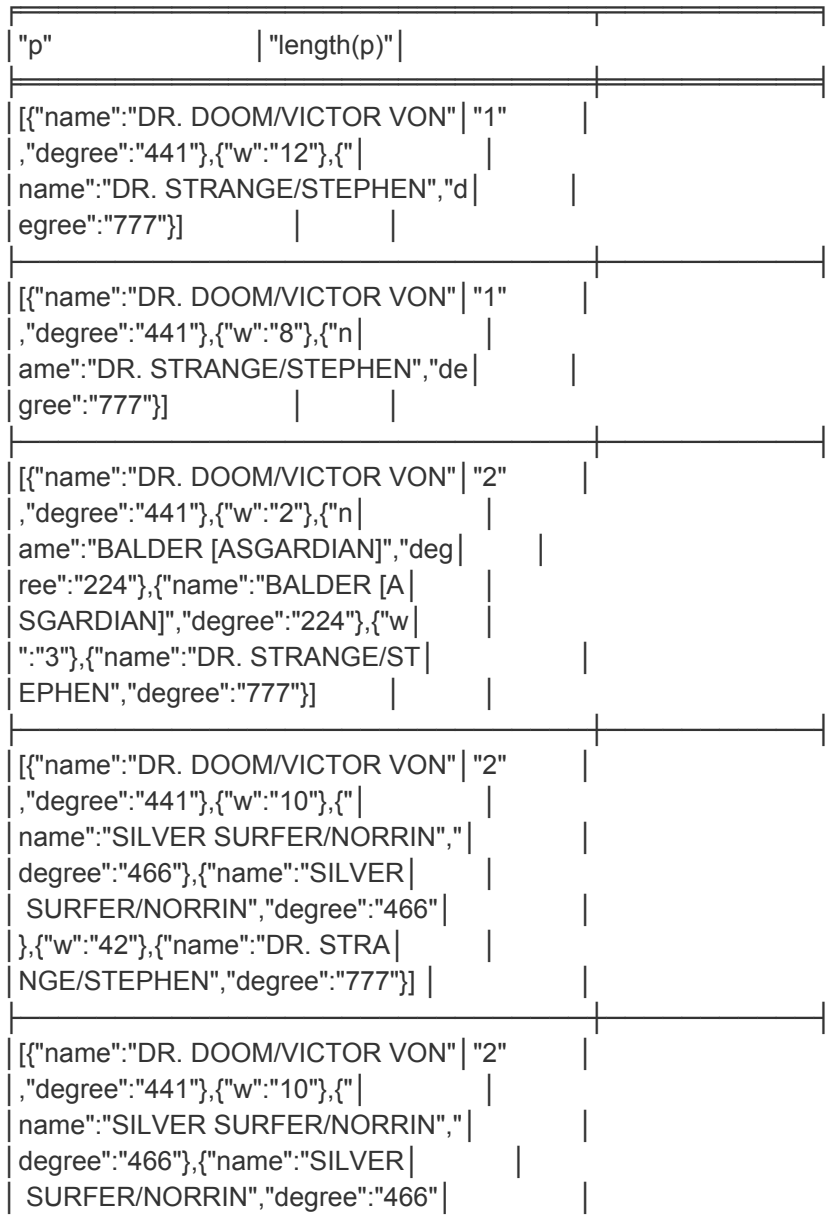
Adam Reilly
W205- Lab 9

1. What is the shortest path between DR. STRANGE and DR. DOOM?
MATCH p=(victor:Hero {name: 'DR. DOOM/VICTOR VON'})-[:APPEARED*0..2]-(stephen:Hero {name: 'DR. STRANGE/STEPHEN'})
RETURN p, length(p)
ORDER BY length(p)
LIMIT 1
ANSWER: 1

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



```
│},{"w":"28"},{"name":"DR. STRA│          │
│NGE/STEPHEN","degree":"777"}] │          │
└──────────────────────────────┴──────────┘
```

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

```
MATCH (peter:Hero { name: 'COLOSSUS II/PETER RA' })-[:APPEARED*2..2]-(friend_of_friend)
WHERE NOT (peter)-[: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"      │
└───────────────────────────┴───────────┘
```

4. Visualize 10 Friends of friends for IRON MAN

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

```
╒═══════════════════════════════════════════╕
│"friend_of_friend"                         │
╞═══════════════════════════════════════════╡
│{"name":"ROM CLONE","degree":"             │
│12"}                                       │
├───────────────────────────────────────────┤
│{"name":"LOCKLIN, GENERAL MER"             │
│,"degree":"48"}                            │
├───────────────────────────────────────────┤
│{"name":"ADAMS, CINDY","degree             │
│":"39"}                                    │
├───────────────────────────────────────────┤
```

```
│{"name":"ROM CLONE","degree":"│
│12"}                          │
├──────────────────────────────┤
│{"name":"SLITHER","degree":"56│
│"}                            │
├──────────────────────────────┤
│{"name":"SLUG/ULYSSES X. LUGM"│
│,"degree":"38"}               │
├──────────────────────────────┤
│{"name":"SCOURGE II/","degree"│
│:"30"}                        │
├──────────────────────────────┤
│{"name":"JACKSON, CURTISS","de│
│gree":"37"}                   │
├──────────────────────────────┤
│{"name":"M'DAKA","degree":"32"│
│}                             │
├──────────────────────────────┤
│{"name":"JACKSON, CURTISS","de│
│gree":"37"}                   │
└──────────────────────────────┘
```

5. Per OH discussion, since we aren't sure how to create the original "team", I modified the team finding examples to return 10. However, in this case, there's no point in subsequently adding from 5 to 10 because this method doesn't track connections, and the results print out in the order that they would be added as we incremented the limit. As such, here are the top 10 (and in the original question, the graph would not be fully connected as Hulk leaves the Avengers early…hence him not even appearing in the top 10 on this list).

```
MATCH (tony:Hero {name:'IRON MAN/TONY STARK'}) -[e:APPEARED]-> (other)
<-[f:APPEARED]- (donald:Hero {name:'THOR/DR. DONALD BLAK'})
RETURN other
ORDER BY e.w DESC, f.w DESC
LIMIT 10
```

```
╒══════════════════════════════╕
│"other"                       │
╞══════════════════════════════╡
│{"name":"CAPTAIN AMERICA","deg│
│ree":"1426"}                  │
├──────────────────────────────┤
│{"name":"SCARLET WITCH/WANDA",│
│"degree":"1004"}              │
├──────────────────────────────┤
```

```
{"name":"VISION","degree":"919
"}
{"name":"WASP/JANET VAN DYNE",
"degree":"778"}
{"name":"ANT-MAN/DR. HENRY J."
,"degree":"775"}
{"name":"WONDER MAN/SIMON WIL"
,"degree":"729"}
{"name":"HAWK","degree":"880"}
{"name":"IRON MAN IV/JAMES R."
,"degree":"338"}
{"name":"JARVIS, EDWIN","degre
e":"707"}
{"name":"MR. FANTASTIC/REED R"
,"degree":"957"}
```