Problem Sheet 3 Graph Theory

1. Create three nodes in Cypher to represent three friends – Jack, Jerry and John.

```
Solution:

CREATE
  (jack:User:Male {Name: "Jack"}),
  (jerry:User:Male {Name: "Jerry"}),
  (john:User:Male {Name: "John"})

RETURN
  jack, jerry, john;
```

- 2. Create relationships showing that:
 - Jack follows Jerry on Twitter.
 - Jack follows John on Twitter.
 - John follows Jerry on Twitter.

```
Solution:
MATCH
  (n:User {Name: "Jack"}), (m:User {Name: "Jerry"})
CREATE
  (n)-[r:FOLLOWS_TWITTER]->(m)
RETURN r;
// OR create two/three at a time:
MATCH
  (n:User {Name: "Jack"}),
  (m:User {Name: "Jerry"}),
  (p:User {Name: "John"})
CREATE
  (n)-[r:FOLLOWS_TWITTER]->(p),
  (p)-[s:FOLLOWS_TWITTER]->(m)
RETURN
  r, s;
```

- 3. Add some information about Jack, Jerry and John:
 - Jack joined Twitter in May 2010.
 - Jerry joined Twitter in June 2012.

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• John joined Twitter in January 2016.

```
Solution:

MATCH (a:User {Name: "Jack"})
SET a.joinTwitter = "May 2010"
RETURN a;

MATCH
  (a:User {Name: "Jerry"})
  , (b:User {Name: "John"})
SET
   a.joinTwitter = "June 2012"
  , b.joinTwitter = "January 2016"
RETURN
  a, b;
```

- 4. Add some information about the following relationships:
 - Jack started following Jerry in July 2012.
 - Jack started following John in February 2016.
 - John started following Jerry on January 2016.

```
MATCH
  (a:User {Name: "Jack"})-[r:FOLLOWS_TWITTER]->(b:User {Name: "Jerry"})

SET
   r.started = "June 2012";

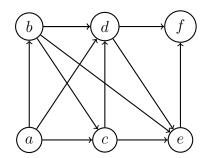
MATCH
  (a:User {Name: "Jack"})-[r:FOLLOWS_TWITTER]->(b:User {Name: "John"})

SET
   r.started = "February 2016";

MATCH
  (a:User {Name: "John"})-[r:FOLLOWS_TWITTER]->(b:User {Name: "Jerry"})

SET
   r.started = "January 2016";
```

5. Create the following graph in Cypher:



Solution: