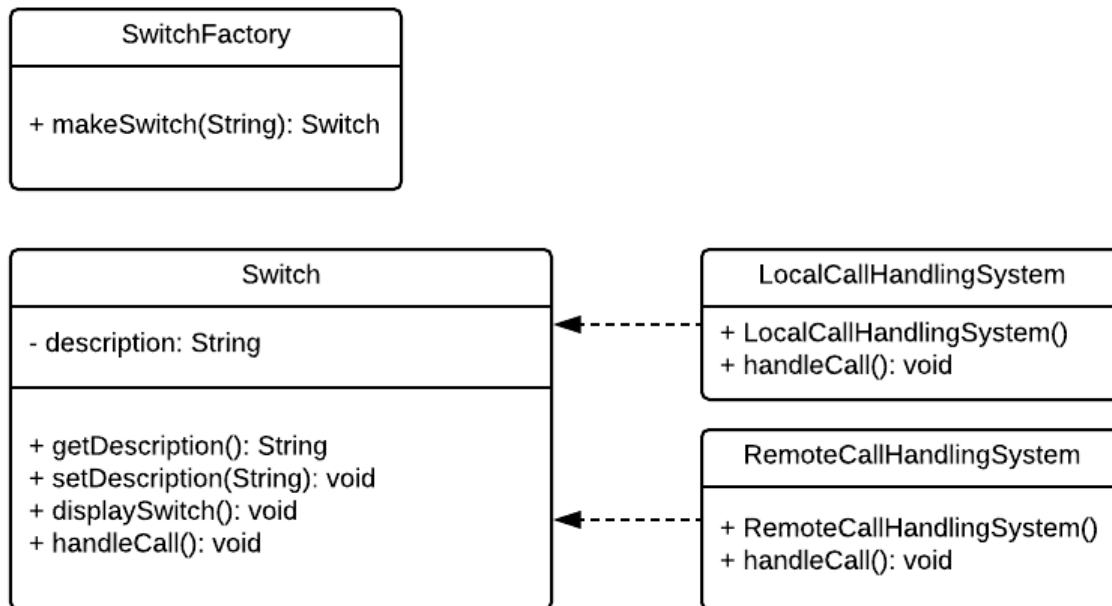
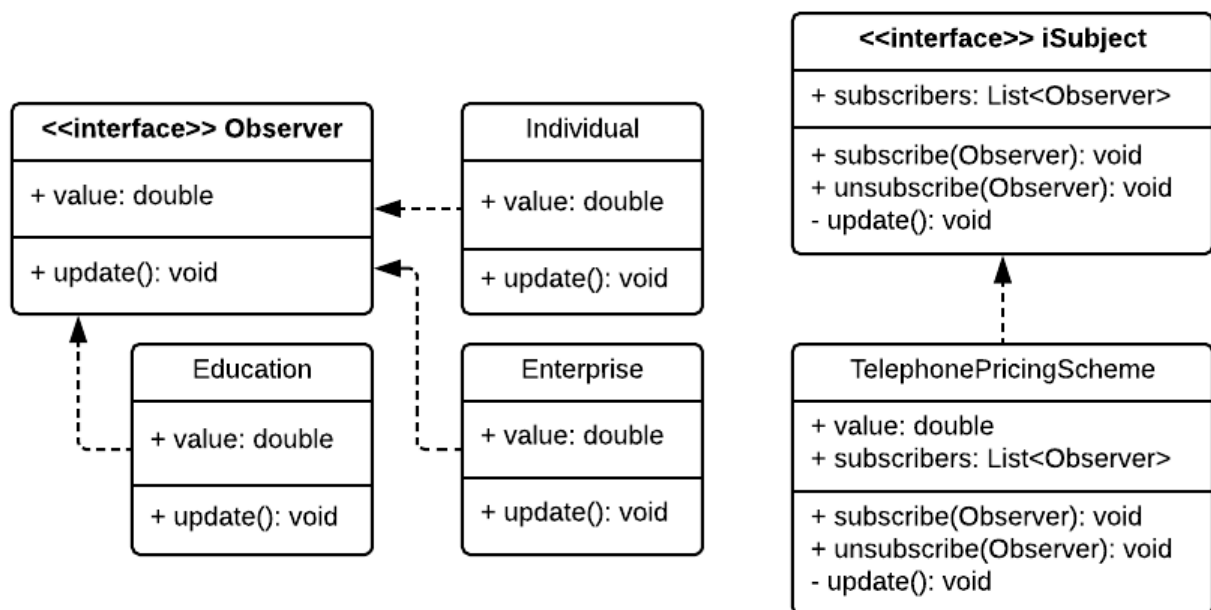


Exercise 2 – Subscriber Switch Factory



Exercise 5 – Telephone Pricing Observer



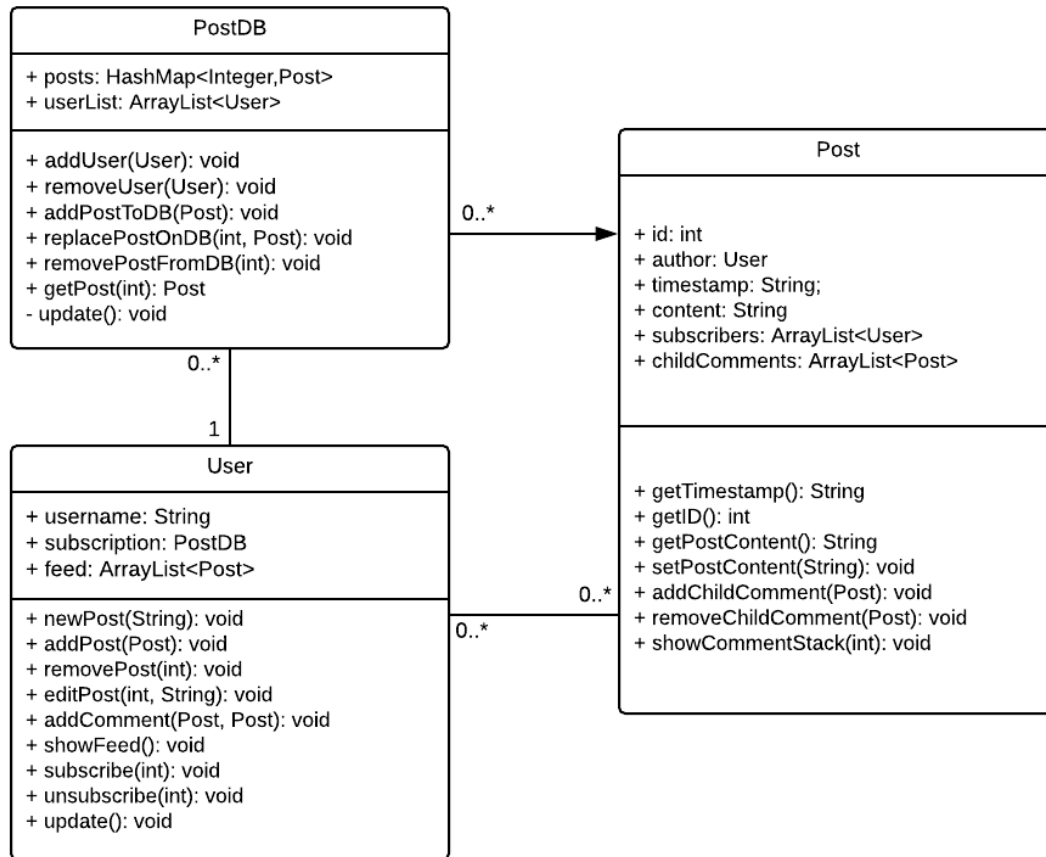
Exercise 6 – Social Media Subscriber

Post is a data structure for a text post, or comment.

PostDB is the publisher, or global record of all Posts and comments.

User is a subscriber, whose update() method is called whenever a subscribed Post is modified, commented on.

Since only one type of Observer and Publisher is used, interfaces are not used.



Test run:

```
Post created by magnanti with signature <magnantiI made SUTD.Sun Feb 25 01:09:39 SGT 2018>
as post id 22d4c100: 'I made SUTD.'

magnanti subscribed to post id 22d4c100

Post created by magnanti with signature <magnantiI am leaving SUTD.Sun Feb 25 01:09:39 SGT 2018>
as post id 46b847eb: 'I am leaving SUTD.'

magnanti subscribed to post id 46b847eb

Showing magnanti's feed:
(post_id: 46b847eb) Sun Feb 25 01:09:39 SGT 2018 magnanti: I am leaving SUTD.
(post_id: 22d4c100) Sun Feb 25 01:09:39 SGT 2018 magnanti: I made SUTD.

Post created by anon with signature <anonNice daySun Feb 25 01:09:39 SGT 2018>
as post id 7b13d0e0: 'Nice day'

anon subscribed to post id 7b13d0e0

Post created by anon with signature <anonNice wetherSun Feb 25 01:09:39 SGT 2018>
as post id 75650bc1: 'Nice wether'

anon subscribed to post id 75650bc1

Showing anon's feed:
(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day
(post_id: 75650bc1) Sun Feb 25 01:09:39 SGT 2018 anon: Nice wether
```

Post created by anon with signature <anonweather*Sun Feb 25 01:09:39 SGT 2018>
as post id 117ff59d: 'weather*'

Showing anon's feed:

(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day
(post_id: 75650bc1) Sun Feb 25 01:09:39 SGT 2018 anon: Nice wether
+--(post_id: 117ff59d) Sun Feb 25 01:09:39 SGT 2018 anon: weather*

anon subscribed to post id 46b847eb

Showing anon's feed:

(post_id: 46b847eb) Sun Feb 25 01:09:39 SGT 2018 magnanti: I am leaving SUTD.
(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day
(post_id: 75650bc1) Sun Feb 25 01:09:39 SGT 2018 anon: Nice wether
+--(post_id: 117ff59d) Sun Feb 25 01:09:39 SGT 2018 anon: weather*

magnanti edited post 46b847eb to: I am no longer leaving SUTD. (edited)

Showing anon's feed:

(post_id: 46b847eb) Sun Feb 25 01:09:39 SGT 2018 magnanti: I am no longer leaving SUTD. (edited)
(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day
(post_id: 75650bc1) Sun Feb 25 01:09:39 SGT 2018 anon: Nice wether
+--(post_id: 117ff59d) Sun Feb 25 01:09:39 SGT 2018 anon: weather*

Post created by anon with signature <anonThat's fantastic, Tom.Sun Feb 25 01:09:39 SGT 2018>
as post id 60d46d65: 'That's fantastic, Tom.'

Showing anon's feed:

(post_id: 46b847eb) Sun Feb 25 01:09:39 SGT 2018 magnanti: I am no longer leaving SUTD. (edited)
+--(post_id: 60d46d65) Sun Feb 25 01:09:39 SGT 2018 anon: That's fantastic, Tom.
(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day
(post_id: 75650bc1) Sun Feb 25 01:09:39 SGT 2018 anon: Nice wether
+--(post_id: 117ff59d) Sun Feb 25 01:09:39 SGT 2018 anon: weather*

Showing magnanti's feed:

(post_id: 46b847eb) Sun Feb 25 01:09:39 SGT 2018 magnanti: I am no longer leaving SUTD. (edited)
+--(post_id: 60d46d65) Sun Feb 25 01:09:39 SGT 2018 anon: That's fantastic, Tom.
(post_id: 22d4c100) Sun Feb 25 01:09:39 SGT 2018 magnanti: I made SUTD.

Post created by magnanti with signature <magnantiByeSun Feb 25 01:09:39 SGT 2018>
as post id 98b95ec: 'Bye'

Showing anon's feed:

(post_id: 46b847eb) Sun Feb 25 01:09:39 SGT 2018 magnanti: I am no longer leaving SUTD. (edited)
+--(post_id: 60d46d65) Sun Feb 25 01:09:39 SGT 2018 anon: That's fantastic, Tom.
+--(post_id: 98b95ec) Sun Feb 25 01:09:39 SGT 2018 magnanti: Bye
(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day
(post_id: 75650bc1) Sun Feb 25 01:09:39 SGT 2018 anon: Nice wether
+--(post_id: 117ff59d) Sun Feb 25 01:09:39 SGT 2018 anon: weather*

anon unsubscribed from post id 46b847eb

Showing anon's feed:

(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day
(post_id: 75650bc1) Sun Feb 25 01:09:39 SGT 2018 anon: Nice wether
+--(post_id: 117ff59d) Sun Feb 25 01:09:39 SGT 2018 anon: weather*

Post 75650bc1 containing 'Nice wether' removed

Showing anon's feed:

(post_id: 7b13d0e0) Sun Feb 25 01:09:39 SGT 2018 anon: Nice day

Homework 1 – Tic Tac Toe

Design Pattern Used: Factory, Manager/Mediator

Factory design pattern is useful in generating different types of Tokens used as game pieces.

Mediator design pattern is used (as GameManager class) to manage the win condition, to print the UI for the game given the Cartesian grid, as well as to keep track of Users and their moves.

```
Player x added.
Player o added.
Game ready, it is now x's turn.

Player x places token at (1, 1)
[ ][ ][ ]
[ ][x][ ]
[ ][ ][ ]

Player o places token at (0, 0)
[o][ ][ ]
[ ][x][ ]
[ ][ ][ ]

Player x places token at (0, 1)
[o][x][ ]
[ ][x][ ]
[ ][ ][ ]

Not x's turn. Wait for the other player to move.
Not x's turn. Wait for the other player to move.

Player o places token at (2, 0)
[o][x][ ]
[ ][x][ ]
[o][ ][ ]

Player x places token at (2, 1)
[o][x][ ]
[ ][x][ ]
[o][x][ ]

Player x won the game.
```

Homework 2 – Election

Design Pattern Used: Factory, Subscriber

Factory design pattern is useful in generating the different electorates without revealing how they are instantiated.

Subscriber pattern is used to receive global updates about the current election status. This is apt as each electorate will receive an update as long as another electorate has submitted a vote, mirroring the role of TV and traditional media broadcasting updates as soon as a state has tallied votes.

```
Alabama has voted.

California has voted.

Texas has voted.

Showing results for Alabama
Candidate 0: 2
Candidate 1: 1

Showing results for California
Candidate 0: 2
Candidate 1: 1

Showing results for Texas
Candidate 0: 2
```

Candidate 1: 1

Showing results for Massachusetts

Candidate 0: 2

Candidate 1: 1

Showing results for Tennessee

Candidate 0: 2

Candidate 1: 1

Massachusetts has voted.

Tennessee has voted.

The election ended with 5 votes.

The winner is: 0

Showing results for Alabama

Candidate 0: 3

Candidate 1: 2

Showing results for California

Candidate 0: 3

Candidate 1: 2

Showing results for Texas

Candidate 0: 3

Candidate 1: 2

Showing results for Massachusetts

Candidate 0: 3

Candidate 1: 2

Showing results for Tennessee

Candidate 0: 3

Candidate 1: 2