

**COMSATS University Islamabad
Abbottabad campus**

Lab:MidTerm

Subject: Design Pattern

Class: BSE-7B

Name: Irfan Khan

Registration No: FA20-BSE-070

Submitted to: Mukhtiar Zamin

Observer Pattern

Match class: This class represents Subject Class of Observer Pattern.

```
package midlab;

import java.util.ArrayList;
import java.util.List;

/**
 *
 * @author Irfan Khan
 */
public class Match {

    private List<ObserverMatch> observers = new ArrayList<>();
    private int state;

    public int getState() {
        return state;
    }

    public void setState(int state) {
        this.state = state;
        notifyActiveObservers();
    }

    public void attach(ObserverMatch observer) {
        observers.add(observer);
    }
}
```

```

    }

    public void detach(ObserverMatch observer) {
        observers.remove(observer);
    }

    private void notifyActiveObservers() {
        for (ObserverMatch observer : observers) {
            if (observer.isActive()) {
                observer.update();
            }
        }
    }
}

```

ObserverMatch: This is Observer Class Used for Update the observers.

```

package midlab;

/**
 *
 * @author Irfan Khan
 */
public abstract class ObserverMatch {

    protected Match subject;
    protected boolean active = true;

    public abstract void update();

    public boolean isActive() {
        return active;
    }
}

```

```

    }

    public void setActive(boolean active) {
        this.active = active;
    }
}

```

ObsMatch1: This is concrete observer in Observer Pattern used for specific match Updation

```
package midlab;
```

```

/**
 *
 * @author TECHNIFI 1
 */
public class ObsMatch1 extends ObserverMatch {

    public ObsMatch1(Match subject) {
        this.subject = subject;
        this.subject.attach(this);
    }

    @Override
    public void update() {
        System.out.println("Cs vs EEE match Start Here");
    }

}

```

ObsMatch2: This is concrete observer in Observer Pattern used for specific match Updation

```
package midlab;

/**
 *
 * @author TECHNIFI 1
 */
public class ObsMatch2 extends ObserverMatch {

    public ObsMatch2(Match subject) {
        this.subject = subject;
        this.subject.attach(this);
    }

    @Override
    public void update() {
        System.out.println("Mansehra vs Abbottabad match Start Here");
    }

}
```

Demo Class:

```
package midlab;

/**
 *
 * @author Irfan Khan
 */
public class Demo {

    public static void main(String[] args) {
```

```
Match match = new Match();
ObsMatch1 match1 = new ObsMatch1(match);
ObsMatch2 match2 = new ObsMatch2(match);

System.out.println("Match Schedules");
match.setState(1);

match.attach(match1);

match.detach(match1);
match1.isActive();
System.out.println("Match: 2");
match.attach(match2);
match.setState(2);
match.detach(match2);

}

}
```