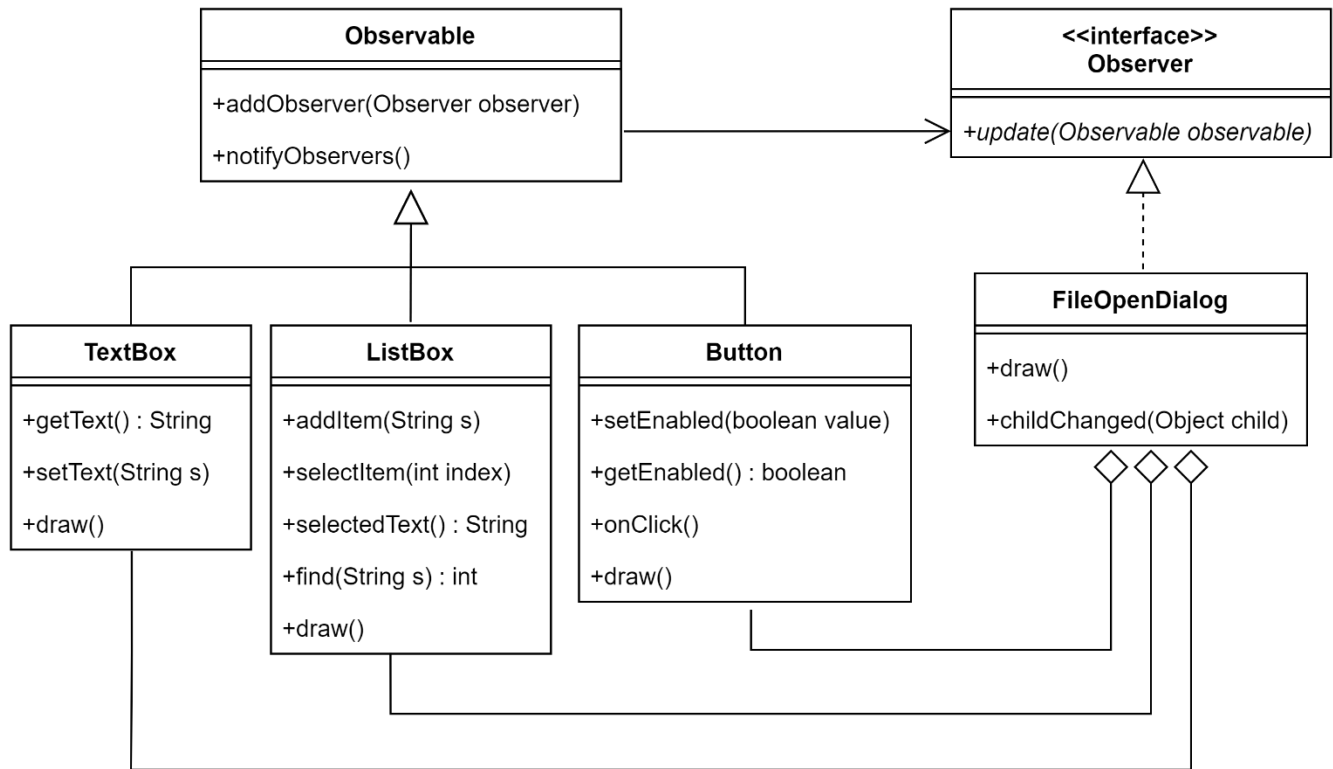


1) 개요



2) Observer.java

```
1 package mediator.e4;
2
3 interface Observer {
4     void update(Observable observable);
5 }
```

3) Observable.java

```
1 package mediator.e4;
2
3 import java.util.ArrayList;
4 import java.util.List;
5
6 public class Observable {
7     List<Observer> observers = new ArrayList<Observer>();
8
9     void addObserver(Observer observer) {
10         observers.add(observer);
11     }
12
13     void deleteObserver(Observer observer) {
14         observers.remove(observer);
15     }
16
17     void notifyObservers() {
18         for (int i = 0; i < observers.size(); ++i)
19             observers.get(i).update(this);
20     }
21 }
```

4) TextBox.java

```
1 package mediator.e4;
2
3 public class TextBox extends Observable {
4     private String text;
5
6     public String getText() {
7         return text;
8     }
9
10    public void setText(String s) {
11        if (s.equals(text) == false) {
12            text = s;
13            notifyObservers();
14        }
15    }
16
17    public void draw() {
18        System.out.print("---- TextBoxWn");
19        System.out.print(text);
20        System.out.print("WnWn");
21    }
22 }
```

5) ListBox.java

```
1 package mediator.e4;
2
3 import java.util.ArrayList;
4
5 public class ListBox extends Observable {
6     private ArrayList<String> items;
7     private int selectedItem;
8
9     public ListBox() {
10         items = new ArrayList<String>();
11         selectedItem = -1;
12     }
13
14     public void addItem(String s) {
15         items.add(s);
16     }
17
18     public void selectItem(int index) {
19         if (selectedItem != index) {
20             selectedItem = index;
21             notifyObservers();
22         }
23     }
24
25     public String selectedText() {
26         return items.get(selectedItem);
27     }
28
29     public int find(String s) {
30         for (int i = 0; i < items.size(); ++i)
31             if (s.equals(items.get(i)))
32                 return i;
33         return -1;
34     }
35
36     public void draw() {
37         System.out.print("---- ListBox\n");
38         for (int i = 0; i < items.size(); ++i)
39             System.out.printf("%d: %s %s\n", i, items.get(i), (i == selectedItem) ? " SELECTED" : "");
40         System.out.print('\n');
41     }
42 }
```

6) Button.java

```
1 package mediator.e4;
2
3 public class Button extends Observable {
4     private boolean enabled;
5
6     public void setEnabled(boolean value) {
7         enabled = value;
8     }
9
10    public boolean getEnabled() {
11        return enabled;
12    }
13
14    public void draw() {
15        System.out.print("---- Button ");
16        System.out.println(enabled ? "enabled" : "disabled");
17        System.out.println();
18    }
19
20    public void onClick() {
21        notifyObservers();
22    }
23 }
```

7) FileOpenDialog.java

```
1 package mediator.e4;
2
3 public class FileOpenDialog implements Observer {
4     private ListBox listBox;
5     private TextBox textBox;
6     private Button button;
7
8     public FileOpenDialog() {
9         listBox = new ListBox();
10        textBox = new TextBox();
11        button = new Button();
12
13        listBox.addItem("one");
14        listBox.addItem("two");
15        listBox.addItem("three");
16
17        listBox.addObserver(this);
18        textBox.addObserver(this);
19        button.addObserver(this);
20    }
21
22    public ListBox getListBox() {
23        return listBox;
24    }
25
26    public TextBox getTextBox() {
27        return textBox;
28    }
29
30    public Button getButton() {
31        return button;
32    }
33
34    public void draw() {
35        listBox.draw();
36        textBox.draw();
37        button.draw();
38    }
39
40    @Override
41    public void update(Observable child) {
42        if (child == listBox) {
43            textBox.setText(listBox.selectedText());
44            button.setEnabled(true);
45        }
46        else if (child == textBox) {
47            int index = listBox.find(textBox.getText());
48            if (index >= 0)
49                listBox.selectItem(index);
50            button.setEnabled(true);
51        } else if (child == button) {
52            String fileName = textBox.getText();
53            System.out.println("File Open (" + fileName + ")");
54        }
55    }
56 }
```

8) Example4.java

```
1 package mediator.e4;
2
3 import java.util.Scanner;
4
5 public class Example4 {
6
7     public static void main(String[] args) throws Exception {
8         try (Scanner scanner = new Scanner(System.in)) {
9             FileOpenDialog dialog = new FileOpenDialog();
10             for (;;) {
11                 System.out.print("WnWnWn");
12
13                 dialog.draw();
14
15                 System.out.print("ListBox 항목 선택 : s <번호>Wn");
16                 System.out.print("TextBox 입력 : t <문자열>Wn");
17                 System.out.print("Button 클릭 : bWn");
18                 System.out.print("? ");
19                 String s = scanner.nextLine();
20                 switch (s.charAt(0)) {
21                     case 's':
22                         int index = Integer.parseInt(s.substring(2).trim());
23                         dialog.getListBox().selectItem(index);
24                         break;
25                     case 't':
26                         dialog.getTextBox().setText(s.substring(2).trim());
27                         break;
28                     case 'b':
29                         dialog.getButton().onClick();
30                         break;
31                 }
32             }
33         }
34     }
35 }
```