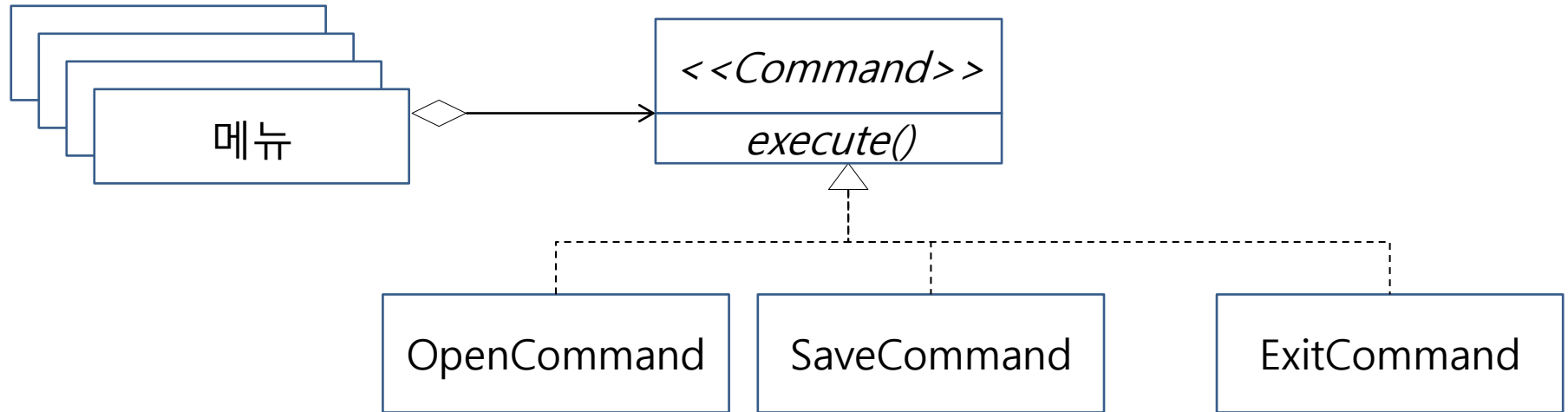


# Command 패턴

# Command 패턴

## ❖ Command 패턴

- 실행할 명령을 추상화(클래스로 정의)하고, 필요한 경우 호출
- 전략 패턴의 특수한 형태
- 메뉴 또는 버튼 등과 연계시 활용



# Command 패턴

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## ❖ Command 인터페이스

```
public interface Command {  
    void execute() throws Exception;  
}
```

# Command 패턴

---

## ❖ MenuItem

```
@NoArgsConstructor
@AllArgsConstructor
public class MenuItem {
    @Getter
    String title;        // 메뉴명
    Command command;     // 실행할 명령

    public void execute() throws Exception {
        if(command != null) {
            command.execute();
        }
    }
}
```

# Command 패턴

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## ❖ Menu

```
public class Menu {
    List<MenuItem> menuList;

    public Menu() {
        menuList = new ArrayList<>();
    }

    public void add(MenuItem menu) {
        menuList.add(menu);
    }

    public void printMenu() {
        for(int i=0; i<menuList.size(); i++) {
            MenuItem menu = menuList.get(i);
            System.out.printf("%d) %s ", i, menu.getTitle());
        }

        System.out.println();
    }
}
```

# Command 패턴

## ❖ Menu

```
public void execute() throws Exception {
    while(true) {
        printMenu();
        Prompt prompt = new Prompt();
        int ix = prompt.getInt("선택");
        if(ix >= 0 && ix < menuList.size()) {
            menuList.get(ix).execute();
        } else {
            System.out.println("잘못된 메뉴 선택입니다.");
        }
    }
}
```

# Command 패턴

---

## ❖ Menu

```
public void execute() throws Exception {
    while(true) {
        printMenu();
        Prompt prompt = new Prompt();
        int ix = prompt.getInt("선택");
        if(ix >= 0 && ix < menuList.size()) {
            menuList.get(ix).execute();
        } else {
            System.out.println("잘못된 메뉴 선택입니다.");
        }
    }
}
```

# Command 패턴

## ❖ 단위 테스트 : MenuTest

```
public class MenuTest {
    @Test
    public void testMenu() {
        Menu menu = new Menu();
        menu.add(new MenuItem("추가", new ScheduleAddCommand()));
        menu.add(new MenuItem("종료", new ExitCommand()));

        while(true) {
            try {
                menu.execute();
            } catch (Exception e) {
                System.out.println("명령 처리 중 에러가 발생했습니다.");
                System.out.println(e.getMessage());
            }
        }
    }
}
```