숙제

간단한 공연예약 시스템을 만들어보자
1. 공연은 하루에 한번 있다.
2. 좌석은 S석 10석, A석 15석, B석 20석이 있다.
3. 시스템의 메뉴는 "예약", "검색", "취소", "끝내기"가 있다.
4. 예약은 1자리만 예약할 수 있으며 좌석 타입, 예약자이름, 좌석번호를 순서대로 입력받아 예약한다.
5. 검색은 모든 종류의 좌석을 표시한다.
6. 취소는 예약자의 이름을 입력하여 취소한다.
7. 없는 이름, 없는 번호, 없는 메뉴, 잘못된 취소 등에 대해서 오류메시지를 출력하고 사용자가 다시 입력하도록 한다.
8. 클래스를 3개를 사용한다. Reserve클래스 SeatType클래스, Seat클래스를 사용하여 구현한다. 3개의 클래스를 사용하지 않을 경우 감점처리한다.

실행결과

```
run:
Reservation(1), Search(2), Cancel(3), Exit(4)>>>>1
Seat classcification  S(1), A(2), B(3)>>1
S>> --- --- --- --- --- --- --- --- --- ---
name>>Kim
number>>3
Reservation(1), Search(2), Cancel(3), Exit(4)>>>>2
S>> --- --- Kim --- --- --- --- --- --- ---
A>> --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
B>> --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
<<<You have completed your search.>>>
Reservation(1), Search(2), Cancel(3), Exit(4)>>>>1
Seat classcification  S(1), A(2), B(3)>>2
A>> --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
name>>Hong
number>>6
Reservation(1), Search(2), Cancel(3), Exit(4)>>>>2
S>> --- --- Kim --- --- --- --- --- --- ---
A>> --- --- --- --- --- Hong --- --- --- --- --- --- --- --- ---
B>> --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
<<<You have completed your search.>>>
Reservation(1), Search(2), Cancel(3), Exit(4)>>>>3
Seat classcification  S(1), A(2), B(3)>>2
A>> --- --- --- --- --- Hong --- --- --- --- --- --- --- --- ---
name>>Hong
Reservation(1), Search(2), Cancel(3), Exit(4)>>>>2
S>> --- --- Kim --- --- --- --- --- --- ---
A>> --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
B>> --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
<<<You have completed your search.>>>
Reservation(1), Search(2), Cancel(3), Exit(4)>>>>4
```

```java
import java.util.Scanner;
public class Reserve {
    public static void main(String[] args) {
        Scanner sin = new Scanner(System.in);
        SeatType[] aSeatType = new SeatType[3];
        aSeatType[0] = new SeatType('S', 10); // S 타입 좌석 생성
        aSeatType[1] = new SeatType('A', 15); // A 타입 좌석 생성
        aSeatType[2] = new SeatType('B', 20); // B 타입 좌석 생성
        int choice = 0;
        while (choice != 4) {
            int type;   System.out.print("Reservation(1), Search(2), Cancel(3), Exit(4)>>>>");
            choice = sin.nextInt();
            switch (choice) {
                case 1:     // 예약
                    System.out.print("Seat classcification  S(1), A(2), B(3)>>");
                    type = sin.nextInt();
                    if (type < 1 || type > 3) {
                        System.out.println("Wrong seat type.");    break;
                        }
                    aSeatType[type - 1].reserve(); break;
                case 2:     // 조회
                    for (int i = 0; i < aSeatType.length; i++)       aSeatType[i].show();
                    System.out.println("<<<You have completed your search.>>>");
                    break;
                case 3:     // 취소
                    System.out.print("Seat classcification  S(1), A(2), B(3)>>");
                    type = sin.nextInt();
                        if (type < 1 || type > 3) {
                                System.out.println("Wrong seat type.");    break;
                        }
                        aSeatType[type - 1].cancel();    break;
                case 4:    break; // 끝내기
                default:   System.out.println("You entered incorrectly.");
            }       }     }
}
```