

Practice 5

- ▶ 제목: DotCom 게임 추가 확장

- ▶ 내용

- ▶ 지난 주 실습 코드를 가지고 DotCom 객체의 상태를 모니터링하기 위한 Observer 인터페이스를 구현한다.
- ▶ 각 DotCom에는 한 개 이상의 Observer 객체들을 등록하고 해제할 수 있도록 다음을 추가한다:
 - ▶ `void registerObserver(o:Observer);` // observer 객체 등록
 - ▶ `void unregisterObserver(o:Observer);` // observer 객체 해제
 - ▶ `ArrayList<Observer> observers;` // observer 객체 리스트
- ▶ “hit” 또는 “kill”이 된 DotCom 객체는 자신의 observer들에 대하여 `update()` 호출
- ▶ Observer interface를 구현하는 클래스는 다음과 같다:
 - ▶ `class SurvivingCells implements Observer`
 - `void update();` // 살아남은 cell 출력
 - ▶ `class DamageRate implements Observer`
 - `void update();` // 피해율 출력($100 \times (\text{DotCom.size()} - \# \text{ of surviving cells}) / \text{DotCom.size()} \%$)



Observer 객체 사용예

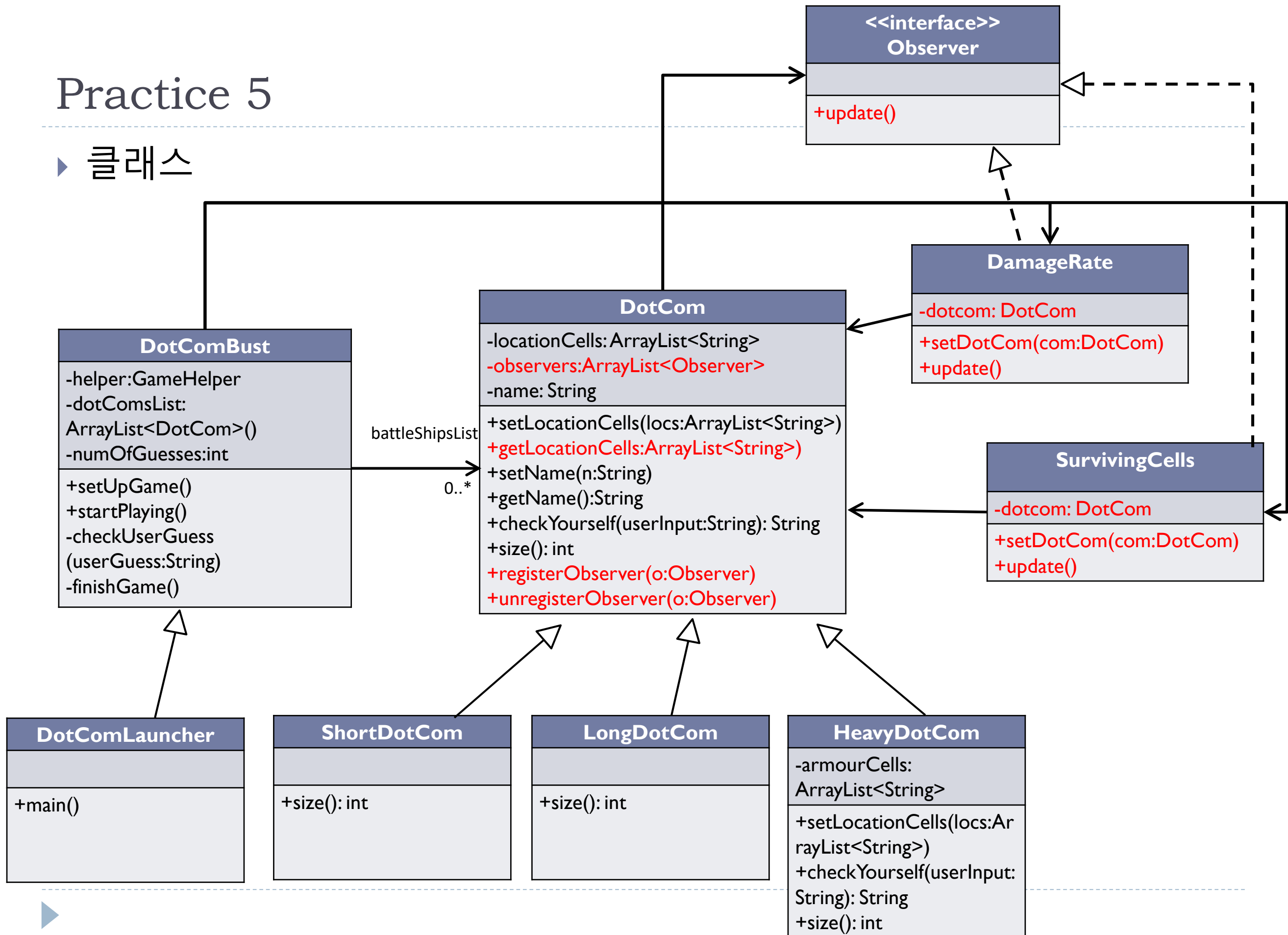
▶ setUpGame() in DotComBust.java

```
for (DotCom dotComToSet : dotComsList) {  
    ArrayList<String> newLocation = helper.placeDotCom(dotComToSet.size());  
    dotComToSet.setLocationCells(newLocation);  
  
    // SurvivingCells 객체를 dotComToSet에 등록  
    SurvivingCells scells = new SurvivingCells();  
    scells.setDotCom(dotComToSet);  
    dotComToSet.registerObserver(scells);  
  
    // DamageRate 객체를 dotComToSet에 등록  
    DamageRate drate = new DamageRate();  
    drate.setDotCom(dotComToSet);  
    dotComToSet.registerObserver(drate);  
}
```



Practice 5

▶ 클래스



출력 결과

```
[f1, f2]
[c0, d0, e0, f0]
[e1, e2, e3]
Surviving cells in eToys.com:c0 e0 f0
Damage rate of eToys.com:25%
Surviving cells in Pets.com:f2
Damage rate of Pets.com:50%
Surviving cells in eToys.com:c0 f0
Damage rate of eToys.com:50%
Surviving cells in eToys.com:c0
Damage rate of eToys.com:75%
Surviving cells in Go2.com:e1 e3
Damage rate of Go2.com:33%
Surviving cells in Pets.com: none
Damage rate of Pets.com:100%
You sunk Pets.com : (
Surviving cells in Go2.com:e1
Damage rate of Go2.com:66%
Surviving cells in Go2.com: none
Damage rate of Go2.com:100%
You sunk Go2.com : (
Surviving cells in eToys.com: none
Damage rate of eToys.com:100%
You sunk eToys.com : (
All Dot Coms are dead!
Took you long enough. 125 guesses.
```

```
Process finished with exit code 0
```

