

Resolution & Result

Bug 4: No SPADE is ever rolled or guessed

1 Resolution

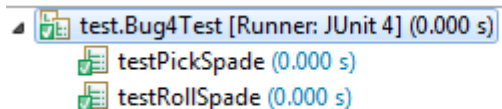
The resolution here is to increase the value in *nextInt* up to 1 ordinal value, so that SPADE will be covered in the range:

```
public static DiceValue getRandom() {  
    int random = RANDOM.nextInt(DiceValue.SPADE.ordinal() + 1);  
    return values()[random];  
}
```

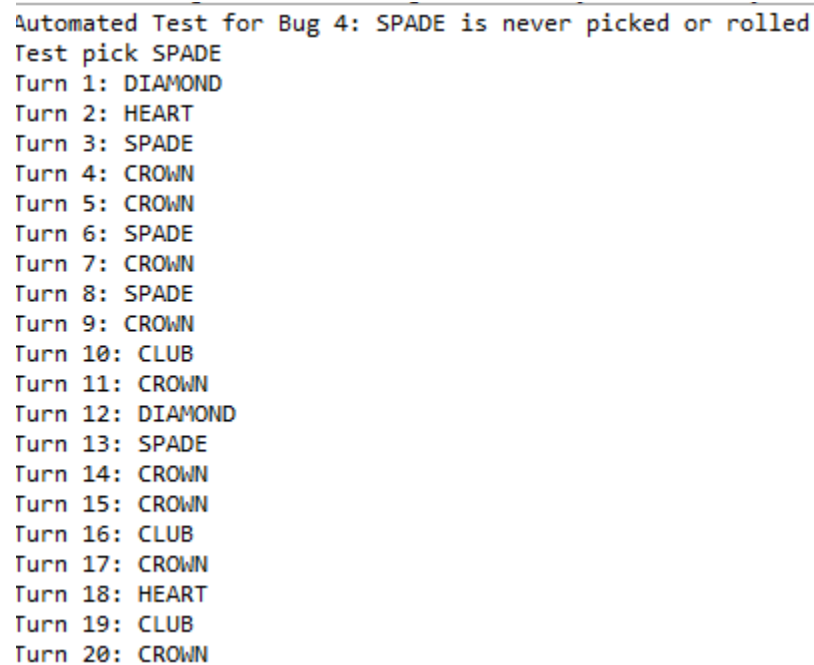
There is also no risk at changing according to this. The change will improve the game logic. However, the inclusion of 1 *DiceValue* may change the win rate of the game (see Bug 5).

2 Result

2.1 Bug4Test



```
test.Bug4Test [Runner: JUnit 4] (0.000 s)  
  testPickSpade (0.000 s)  
  testRollSpade (0.000 s)
```



```
Automated Test for Bug 4: SPADE is never picked or rolled  
Test pick SPADE  
Turn 1: DIAMOND  
Turn 2: HEART  
Turn 3: SPADE  
Turn 4: CROWN  
Turn 5: CROWN  
Turn 6: SPADE  
Turn 7: CROWN  
Turn 8: SPADE  
Turn 9: CROWN  
Turn 10: CLUB  
Turn 11: CROWN  
Turn 12: DIAMOND  
Turn 13: SPADE  
Turn 14: CROWN  
Turn 15: CROWN  
Turn 16: CLUB  
Turn 17: CROWN  
Turn 18: HEART  
Turn 19: CLUB  
Turn 20: CROWN
```

```
Turn 20: CROWN
Automated Test for Bug 4: SPADE is never picked or rolled
Test roll SPADE
Turn 1: DIAMOND , ANCHOR , CROWN
Turn 2: ANCHOR , CLUB , SPADE
Turn 3: CROWN , HEART , DIAMOND
Turn 4: DIAMOND , SPADE , CLUB
Turn 5: SPADE , SPADE , CLUB
Turn 6: ANCHOR , CROWN , CLUB
Turn 7: HEART , ANCHOR , HEART
Turn 8: SPADE , DIAMOND , ANCHOR
Turn 9: DIAMOND , ANCHOR , ANCHOR
Turn 10: SPADE , CLUB , HEART
Turn 11: ANCHOR , SPADE , SPADE
Turn 12: SPADE , HEART , CROWN
Turn 13: CROWN , SPADE , DIAMOND
Turn 14: DIAMOND , DIAMOND , CROWN
Turn 15: CROWN , CROWN , CROWN
Turn 16: ANCHOR , SPADE , CROWN
Turn 17: CLUB , DIAMOND , SPADE
Turn 18: SPADE , HEART , SPADE
Turn 19: ANCHOR , HEART , DIAMOND
Turn 20: CLUB , ANCHOR , HEART
```

2.2 Main Console

As the result, there are some SPADEs in guessing and in dices.

```
Start Game
Fred starts with balance 100, limit 0
Turn 1: Fred bet 5 on ANCHOR
Rolled CLUB, DIAMOND, CROWN
Fred lost, balance now 95

Turn 2: Fred bet 5 on SPADE
Rolled HEART, CROWN, SPADE
Fred won 5, balance now 100

Turn 3: Fred bet 5 on CROWN
Rolled DIAMOND, SPADE, CLUB
Fred lost, balance now 95

Turn 4: Fred bet 5 on HEART
Rolled CLUB, CLUB, DIAMOND
Fred lost, balance now 90

Turn 5: Fred bet 5 on SPADE
Rolled CLUB, CLUB, CROWN
Fred lost, balance now 85

Turn 6: Fred bet 5 on DIAMOND
Rolled CROWN, HEART, SPADE
Fred lost, balance now 80
```