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
```

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