

# Resolution & Result

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## *Bug 2: Player cannot reach betting limit*

### 1 Resolution

The bug can simply be fixed if putting an equal sign into the method as:

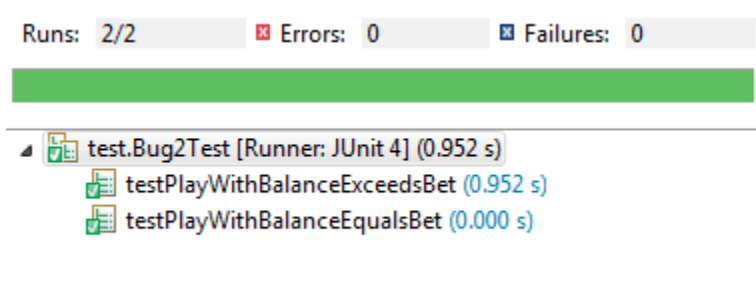
```
public boolean balanceExceedsLimit() {  
    return (balance > limit);  
}  
  
public boolean balanceExceedsLimitBy(int amount) {  
    return (balance - amount >= limit);  
}
```

There is no risk in changing the method. As the method appears in **Main.java** and **Player.java**, changing may fix both logical errors and errors within the loop. However, as the method also appears in *takeBet* method, it needs to be considered. From the first version, if the balance is equal to bet (*balanceExceedsLimitBy(bet) = false*), the exception would be called, and it is not correct. So if changing the code, this may fix potential problem.

```
public void takeBet(int bet) {  
    if (bet < 0) throw new IllegalArgumentException("Bet cannot be zero or negative.");  
    if (!balanceExceedsLimitBy(bet)) throw new IllegalArgumentException("Placing bet would go below limit.");  
    balance = balance - bet;  
}
```

### 2 Result

#### 2.1 Bug2Test.java



Automated Test for Bug 2: Player cannot reach betting limit  
Start Game

Test with balance exceeds bet  
October starts with balance 6, limit 0  
Rolled ANCHOR, ANCHOR, ANCHOR  
October bet 5 on HEART  
Balance now 1 | Limit: 0

Winnings for this bet:0

Automated Test for Bug 2: Player cannot reach betting limit  
Start Game

Test with balance equals bet  
October starts with balance 5, limit 0  
Rolled ANCHOR, ANCHOR, ANCHOR  
October bet 5 on HEART  
Balance now 0 | Limit: 0

Winnings for this bet:0

Automated Test for Bug 2: Player cannot reach betting limit  
Start Game

October starts with balance 6, limit 0  
Rolled ANCHOR, ANCHOR, ANCHOR  
October bet 5 on HEART  
Balance now 1 | Limit: 0

Winnings for this bet:0

Automated Test for Bug 2: Player cannot reach betting limit  
Start Game

October starts with balance 5, limit 0  
Rolled ANCHOR, ANCHOR, ANCHOR  
October bet 5 on HEART  
Balance now 0 | Limit: 0

Winnings for this bet:0

## 2.2 Console from Main

Result from the console shows no error as well:

Turn 373: Fred bet 5 on CROWN  
Rolled ANCHOR, HEART, HEART  
Fred lost, balance now 5

Turn 374: Fred bet 5 on CLUB  
Rolled ANCHOR, HEART, HEART  
Fred lost, balance now 0

374 turns later.  
End Game 99: Fred now has balance 0