

Project: ITC515_assignment04

Crown And Anchor Game

Test Case Name: Bug01 – Payout Test

Test Case ID: 001

Description of Test:

When a player wins a round of Crown and Anchor does the amount the player bet for the round get subtracted from their balance – yes or no?

Preconditions for Test:

- there is a player and a dealer – both are over the age of 18
- the player has money to bet on the round
- the player places a bet
- the player's bet is placed on one of six outcomes per die
- the dealer rolls three dice and is given three results
- the results are valid – a call of No Spin/Throw by the dealer voids the results
- the player wins – i.e., their bet matches one or more of the three results

Postconditions for Test:

- if the player's chosen outcome matches one of the results, the player's balance increases by the amount bet
- if the player's chosen outcome matches two of the results, the player's balance increases by the amount bet multiplied by two
- if the player's chosen outcome matches three of the results, the player's balance increases by the amount bet multiplied by three

Data Required for Test:

- the amount of the player's initial balance
 - is the player's initial balance greater than zero – yes or no?
- The amount of the player's bet
 - Is the bet less than the balance – yes or no?
- The outcome the player is betting on.
- The results from the dealers dice toss
- The validity of the results – are they valid yes or no?
- Did the player win – does the player's bet match one or more of the results?

- Did the player's balance increase the amount won – yes or no?

Test Script

Date Completed: 11/06/15

Result (Pass/Fail/Warning/Incomplete):

Test Data:

- Player: Fred
- Player balance amount: \$100
- Player bet amount: \$5
- Player bet: Crown
- Dice result: Crown, Anchor, Club

Step	Step Description	Expected Test Results	Pass?	Fail?
01	The player indicates a wager.	The game records the player's amount bet.	P	
02	The player bets on an outcome.	The game records the player's chosen die face.	P	
03	The dealer begins the round.	The game checks if the player's amount bet exceeds the player's available funds.	P	
04	The dealer produces an outcome.	The dealer rolls three dice.	P	
		The game verifies the validity of the dice.	P	
05	Does the player win?	The game compares the dice results with the player's chosen die face.	P	
06	How much does the player win?	If the player's choice matches one result, the balance increases by the amount bet.		F
		If the player's choice matches two results, the balance increases by the amount bet multiplied by two.		F
		If the player's choice matches three results, the balance increases by the amount bet multiplied by three.		F
07	The dealer ends the round.	The round concludes.	P	

Test Case Name: Bug02 – Bet Limit Test

Test Case ID: 002

Description of Test:

When the betting limit per round is \$0 dollars, can the player play their last remaining dollars without the game ending prematurely – yes or no?

Preconditions for Test:

- there is a player and a dealer – both are over the age of 18
- the betting limit is zero dollars
- the game has begun and the rounds proceed with the player losing money over time... approaching a balance of zero.
- the player's balance is equal or less than the bet amount

Postconditions for Test:

- the player loses
- their balance is diminished to \$0 dollars
- the game ends

Data Required for Test:

- The betting limit – given in the question as \$0 dollars
- The player's bet amount
- The player's balance
- The outcome the player is betting on.
- The results from the dealers dice toss
- Did the player lose – does the player's bet match one or more of the results?

Test Script

Date Completed: 11/07/15

Result (Pass/Fail/Warning/Incomplete): Fail

Test Data:

- Betting limit: \$0
- Player: Fred
- Player balance amount: \$10
- Player bet amount: \$10
- Player bet: Crown

- Dice result: Heart, Heart, Heart

Step	Step Description	Expected Test Results	Pass?	Fail?
01	The game begins.	Rounds are played until the player's balance approaches zero.	P	
02	Does the player have enough money to play another round?	The game compares to see if the balance is greater than or equal to betting limit.	P	
		The game compares to see if the balance is greater than or equal to the amount bet.	P	
03	The player indicates a wager.	The game records the player's amount bet.	P	
04	The player bets on an outcome.	The game records the player's chosen die face.	P	
05	The dealer begins the round.	The game checks if the player's amount bet exceeds the player's available funds.	P	
06	The dealer produces an outcome.	The dealer rolls three dice.	P	
		The game verifies the validity of the dice.	P	
07	Does the player lose?	The game compares the dice results with the player's chosen die face.	P	
08	Does the player have enough money to play another round?	The game compares to see if the balance is greater than or equal to betting limit.		F
		The game compares to see if the balance is greater than or equal to the amount bet.	P	
09	The game ends prematurely	The round concludes.	P	

Test Case Name: Bug03 – Weird Odds Test

Test Case ID: 003

Description of Test:

With a large enough sample size, the `winCount/(winCount+loseCount)` ratio for the total games played should be approximately .42. This test will demonstrate that the ratio isn't .42.

Preconditions for Test:

- there is a player and a dealer – both are over the age of 18
- the game is played a significantly meaningful number of iterations.
- `winCount` starts at zero
- `loseCount` starts at zero

Postconditions for Test:

- the `winCount/(winCount+loseCount)` ratio is not .42

Data Required for Test:

- `winCount`
- `loseCount`

Test Script

Date Completed: 11/07/15

Result (Pass/Fail/Warning/Incomplete): Fail

Test Data:

- Player: Fred
- Player's initial balance: \$1000
- Player bet amount: \$1

Step	Step Description	Expected Test Results	Pass?	Fail?
01	The game begins.		P	
02	The player indicates a wager.	The game records the player's amount bet.	P	
03	The player bets on an outcome.	The game records the player's chosen die face.	P	
04	The dealer produces an outcome.	The dealer rolls three dice.	P	
		The game verifies the validity of the dice.	P	
05	Does the player lose?	The game compares the dice results with the player's chosen die face.	P	
06	Is the player rewarded?	The bet is subtracted from the player's balance or the winnings are added to the player's balance.	P	
07	The round ends.		P	
08	The above steps are repeated a significant amount of times.		P	
09	The game ends.		P	
10	The odds are calculated.	Do the odds equal 0.42		F