**Bug 1 - Player Loses Double**

Point of Failure: At line 80 in ‘InteractiveGame’, punter.getBalance() is incorrect.

Hypothesis 1: The bug is in the presentation class where the punters balance is displayed.

Test: Visually inspect the execution of punter.getBalance() at line 80.

Prediction: Line 80 has “punter.getBalance() - bet”

Result: Hypothesis 1 is false: punter.getBalance() has no additional calculations on line 80.

Hypothesis 2: The bug is in the entity class ‘Punter’ where the punters balance is returned.

Test: Visually inspect the method getBalance() in the ‘Punter’ class.

Prediction: The getBalance() method returns “balance - bet”

Result: Hypothesis 2 is false: The balance of the punter is returned with no alteration.

Hypothesis 3: The bug is in the presentation class ‘InteractiveGame’ at the line where “Round.play()” is executed on line 69.

Prediction:

Test: Check parameters of “play()” method.

punter == (name==”John”, balance= 100, limit == 10)

dice == List<Die>(new Die(), new Die(),new Die())

pick = Face.FISH

bet == 5

Result: Hypothesis 3 is false: The all the parameters are sane so the bug must be in the “Round.play()” method.

Hypothesis 4: The bug is in the control class ‘Round’ in the method “play()”.

Test: Watch the variables while stepping through the execution of the “play()” method.

Prediction: Variables of this method should show some unexpected behaviour..

Result: Hypothesis 4 is true: The bug was not directly found in the “Round” class, however method “placeBet()” in the Punter class changed the Punter object unexpectedly .

Hypothesis 5: The bug is in the entity class ‘Punter’ in the method “placeBet()”.

Test: Step through the method “placeBet()” in the ‘Punter’ class and write a test to assert the the punter.

Prediction: Punter object is altered by “placeBet()” method.

Result: Hypothesis 5 is true: The “placeBet()” method changed the Punter object.

Hypothesis 6: A line in the “Punter” class is the cause of the bug and is unnesserary and should be removed.

Test: Inspect the “placeBet()” method to see if any lines are unnesserary.

Prediction: when Line 74 is removed the bug should be fixed.

Result: Test case runs successfully. Bug is removed.