Assignment 3
CS362-004
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Non-card Functions:
unittest1.c = getCost
unittest2.c = fullDeckCount
unittest3.c = isGameOver
unittest4.c = scoreFor

Cards:
cardtest1.c = smithy_card
cardtest2.c = adventurer_card
cardtest3.c = mine_card
cardtest4.c = village_card

Bugs Found:
In the dominion.c function scoreFor(), I found a bug related to the calculation of score from the deck. The function loops based on the discardCount, when it should loop based on the deckCount.

In the dominion.c function smithy_card(), I found a bug where the smithy card does not get discarded. The function adds 3 cards as intended. However, the smithy card itself does not get discarded.

In the dominion.c function village_card(), I found a bug where the village card does not get discarded. The function draws 1 card as intended. The function also adds actions as intended. However, the village card itself does not get discarded.

Unit Testing:
This is the output from running the command "gcov dominion -a":

> *File 'dominion.c'*
> *Lines executed:29.14% of 580*
> *Creating 'dominion.c.gcov'*

gcov shows that the tests cover 29% (or about one third) of dominion.c's lines. This is to be expected, because I didn't write tests for all of dominion.c. If we were to write tests for all of the remaining functions in dominion.c, then that would give us a clear understanding of how well our tests did in covering the dominion code.

Unit Testing Efforts:

In unittest1 I tested the function getCost. I called the function with the parameter for province. I then tested if the function return value came back with the proper cost.

In unittest2 I tested the function fullDeckCount. I tested the function by setting up cards in the player's hand. I then checked if the function counted the cards properly.

In unittest3 I tested the function isGameOver. I set conditions which would cause the game to be over. I then checked if the function returns a result indicating that the game is over.

In unittest4 I tested the function scoreFor. I tested the function by setting up cards in the player's hand, deck, and discard. I then checked if the function returned the proper result. I found a bug during this test.

In cardtest1 I tested the card smithy. I set up the player's hand and called the function. I then checked if the function set the cards in the player's hand properly. I found a bug during this test.

In cardtest2 I tested the card adventurer. I set up the player's hand, set up the discard pile, and called the function. I then checked if the function found the appropriate treasure from the discard and added it to the player's hand.

In cardtest3 I tested the card mine. I set up the player's hand and called the function. I then checked if the card replaced the selected treasure card with the appropriate higher value card.

In cardtest4 I tested the card village. I set up the player's hand, set the player's actions, and called the function. I then checked if the function set both the number of actions and also the cards in the player's hand properly. I found a bug during this test.