Writing Test Cases II

CMPE 187

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1. Data from previous assignment (Writing Test Cases I)

Test Scenarios	Test Case
Check valid number input	Check if user entered 0 for Red OR 1 for Yellow Check if user entered 0 for Red OR 1 for Yellow
Check type of coin inserted	Check if user enters "nickel", "dime" or "quarter" Check if user enters "nickel", "dime" or "quarter"
Check amount of change	Check if user inputted enough coins to make his purchase
Check if user wants more gumballs	Check if user wants to purchase more gumballs after initial purchase Inputs are 0 (No) or 1 (Yes)

Test Data	Expected Result
Input: 0 Input: 3	No error: Program continues Error message: "Invalid Input Please Try Again"
Input: dime Input: cent	No error: Program continues Error message: "Invalid coin inserted. Please try again"
Coin input: 50/ Purchase amt: 40 Coin input: 50/ Purchase amt: 55	No error: Change returned = 10 cents Error message: "Not enough coins!"
Input: 1 Input: 0 Input: 3	No error: Continues to proceed with prompts No error: "Thank you!" message printed Error Message: "Invalid Input!"

2. Additional Test Cases

1) Control Flow Testing

TC #	User Input Request	Red Ball (R)	Yellow Ball (Y)	Expected Output	Actual Output	Reasoning
1	1 Dime	N/A	1	1 Y ball	1 Y Ball	VALID - No change since Yellow ball worth 1 dime
2	1 Cent	1	N/A	1 R ball	No ball / Coin returned	INVALID - Cent is not a valid coint input
3	1 Nickel + 1 Dime	2	N/A	2 R balls + Change	2 R balls + 5 cents change	VALID - Ball is returned with the correct change
4	1 Quarter	1	1	1 R + 1 Y Ball + Change	1 R + 1 Y ball + 10 cents change	VALID - User is allowed to request multiple balls

2) Decision Table

Test Case #	Test Scenario	Expected Result	Reasoning
1	Yosimy enters 2 pennies and pulls the yellow gumball lever.	The machine returns 2 pennies to Yosimy	The machine returns his change as it only takes nickels, dimes and quarters.
2	Yosimy enters a quarter and pull the red gumball lever four times and hits “Return Change” button	The machine dispenses four red gumballs and returns $.05 cents	The machine dispenses a red gumball each time the red gumball lever is pulled and returns the remaining change to Yosimy when he

			pushes the “Return Change” button
3	Yosimy Enters 5 dimes and pulls the red gumball lever twice and the yellow gumball lever four times and hits the “Return Change” Button	The machine dispenses two red gumballs and four yellow gumballs and does not return change.	The machine dispenses a red gumball each time the red gumball lever is pulled and a yellow gumball each time the yellow gumball lever is pulled and returns the remaining change to Yosimy when he pushes the “Return Change” button. However, No change is returned since there is no leftover change.
4	Yosimy enters a quarter, dime, nickel and 2 pennies and pulls the red gumball lever once and the yellow gumball lever three times and hits the “Return Change” button	The machine dispenses one red gumball and three yellow gumballs and returns two pennies to Yosimy	The machine dispenses a red gumball each time the red gumball lever is pulled (once) and dispenses a yellow gumball each time the yellow lever is pulled and returns the remaining change to Yosimy when he pushes the “Return Change” button. The 2 pennies are returned as the machine only takes nickel, dimes and quarters

3) **Domain Testing**

Test #	Domain #	Test Input	Actual Output	Reasoning
TC1	D1 (Coin divisible by 5	1. Coin = $.10 2. Coin = $.01	1. “Red or Yellow	1. Valid input 2. Domain

	&& input > 0)		Gumball?" 2. "Only nickel, dimes and quarters available"	Error, Coin not divisible by 5
TC2	D2 (Red Lever Pulled)	1. Coin = $.05 2. Coin = $.10	1. Red Gumball Dispensed 2. 2 Red Gumballs dispensed	1. Valid input and correct amount needed 2. Valid input and correct amount needed to dispense 2 gumballs
TC3	D3 (Yellow Lever Pulled)	1. Coin = $.05 2. Coin = $.10	1. Nothing dispensed, Coin is returned 2. Yellow Gumball dispensed	1. Valid input but insufficient amount to get yellow gumball 2. Valid input and correct amount needed to dispense a gumball
TC4	D4 (Both Levers pulled)	1. Coin = $.05 + $.10	1. 1 Red and 1 Yellow gumball dispensed	1. Valid input with the exact amount of money for both balls. So the balls are dispensed with no change
TC5	D5 (Return Change)	1. Coin = $.25 User requests 1 Yellow Ball, Return Change Lever pulled	1. 1 Yellow Ball dispensed with $0.15 change	1. Valid input with sufficient money. Ball

				dispensed and $0.15 change returned
TC6	D6 (All three levers pulled - Red Lever (RL), Yellow Lever (YL), Return Change (RC))	1. Coin = $.25 + $.10, 1 Yellow ball + 1 Red requested, RC Lever pulled	1. 1 Yellow ball + 1 Red ball dispensed $0.20 change is returned to user	1. Valid input with sufficient money. Both balls dispensed and $0.20 change returned