Author: Ryan Wells Farran
Class: CS 162 400 S2019
Date: 04/28/2019 | Sunday, April 28th 2019
Description: Project 2 Reflection Pdf File

(Test plan below)

Prompt	Test Case	Input Value	Expected Outcome	Observed Outcome
Please enter 1 to PLAY GAME or 2 to EXIT GAME.Enter an INTEGER value.	non-integer value	char 'c'	Error: NON-INTEGER value was entered! Please enter an INTEGER value!	input validation worked properly
same as above	negative integer value	-10	Error: NON-INTEGER value was entered! Please enter an INTEGER value!	input validation worked properly
same as above	positive integer value other than 1 or 2	4	Error: NON-INTEGER value was entered! Please enter an INTEGER value!	input validation worked properly
same as above	decimal number	10.5	Error: NON-INTEGER value was entered! Please enter an INTEGER value!	This surprisingly worked due to the fact that I had a n extra while loop that keeps requesting the correct value.
same as above	correct number	1	Alright! Let's Play! :-)	as expected, entering in the desired input worked
How much money will your Zoo start with?(must be between $10,000 and $100,000)Enter a POSITIVE INTEGER value.	non-integer value	char 'c'	Error: incorrect value was entered! Please enter a POSITIVE INTEGER value!	input validation worked properly
same as above	negative integer value	-10	Error: incorrect value was entered! Please enter a POSITIVE INTEGER value!	input validation worked properly
same as above	decimal number	10.5	Will accept input but results from next input will be affected	This surprisingly worked due to the fact that I had a n extra while loop that keeps requesting the correct value.
same as above	integer greater than 100000	5000000	(must be between $10,000 and $100,000)Enter a POSITIVE INTEGER value.	input validation worked properly
same as above	Valid number	30000	Okay, your Zoo will start with a balance of $30000.00	worked as expected!
How many TIGERS will you start with? Enter '1' or '2', nothing else. Enter a POSITIVE INTEGER value.	positive integer value greater other than 1 or 2	5	Enter '1' or '2', nothing else. Enter a POSITIVE INTEGER value.	input validation worked properly
same as above	negative integer value	-10	Error: incorrect value was entered! Please enter a POSITIVE INTEGER value!	input validation worked properly

Prompt	Test Case	Input Value	Expected Outcome	Observed Outcome
same as above	character type	f	Error: incorrect value was entered! Please enter a POSITIVE INTEGER value!	input validation worked properly
same as above	decimal number	10.5	Will accept input but results from next input will be affected	Enter '1' or '2', nothing else. Enter a POSITIVE INTEGER value. Error: incorrect value was entered! Please enter a POSITIVE INTEGER value!
same as above	correct value	2	How many PENGUINS will you start with? Enter '1' or '2', nothing else. Enter a POSITIVE INTEGER value.	Works correctly for Tigers, Penguins, and Turtles in the same way
Would you like to purchase another animal? Enter 'Y' for YES or 'N' for NO.	character other than y, Y, n, or N	h	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	negative integer value	-10	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	decimal number	10.5	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	integer value	10	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	correct input	Y	Will work as expected	What type of animal would you like to purchase? Enter '1' to purchase a TIGER! Enter '2' to purchase a PENGUIN! Enter '3' to purchase a TURTLE! Enter a POSITIVE INTEGER value.
What type of animal would you like to purchase? Enter '1' to purchase a TIGER! Enter '2' to purchase a PENGUIN!	positive integer value greater other	5	Enter a POSITIVE INTEGER value.	input validation worked properly

Prompt	Test Case	Input Value	Expected Outcome	Observed Outcome
same as above	character type	f	Error: incorrect value was entered! Please enter a POSITIVE INTEGER value!	input validation worked properly
same as above	decimal number	10.5	Error: incorrect value was entered! Please enter a POSITIVE INTEGER value!	input validation worked properly
same as above	correct value	1	Will work as expected and bring up the final prompt that we will test because it will just loop from there	Would you like to keep playing? Enter 'Y' for YES or 'N' for NO.
Would you like to keep playing? Enter 'Y' for YES or 'N' for NO.	character other than y, Y, n, or N	h	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	negative integer value	-10	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	decimal number	10.5	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	integer value	10	Error: incorrect option was selected! Please enter 'Y' for YES or 'N' for NO!	input validation worked properly
same as above	correct input	Y	Will work as expected	Okay we'll start the next day...

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Changes in Design:

At first I thought I would set up my derived animal classes (Tiger, Penguin, and Turtle) so that stye would automatically adjust their values such as their cost, number of babies, etc., but I ended up finding it made more sense for my program to just pass the distinguishing values into the functions in the mainProject2.cpp file.

At first I thought my function for adding babies would have a void return type, but I ended up having them return a boolean value so I could test to see whether or not there were any adult animals to have a baby. Instead of having two separate functions, one to test and one to add, I was able to combine them into one function.

Problems Encountered:

The biggest problem i encountered was just the complexity of some of the nested loops. I feel like I could have made my logic a lot simpler if I were to start from scratch, but since I was designing the program as I went, I ended up having to step away from the program a few times to make sense of it. I also ended up creating a function of my inputVal class that specifically requests a one or a two, so I could have designed my Menu class differently using that function, but I will next time instead. I have found that reusing code from earlier assignments is “a blessing and a curse” in that I often find old comments and variables that aren’t relevant to my new code, and I could probably do a better job at designing my older classes now that I’ve had some practice. It feels comforting, though, when I am using my old classes and functions that I am comfortable with alongside my new classes that are still in the debugging phase.