HOMEWORK ASSIGNMENT #7

Please complete the following items from Chapter 6 and submit by the assigned due date.

Algorithm Workbench (2pts each)

3. Design an algorithm that prompts the user to enter "yes" or "no" and validates the input. (Use a case -insensitive comparison.)

Declare String userWord

Input userWord

Set userWord = toLower(userWord)

While userWord ≠ “yes” OR userWord ≠ “no”, then

Display “Please enter yes or no. This program is not case sensitive.”

Input userWord

End While

5. Design an algorithm that prompts the user to enter a secret word. The secret word should be at least 8 characters long. Validate the input.

Declare secretWord

Input secretWord

While secretWord ≠ “BatSnarf”

Display “Wrong answer Neutron!”

Input secretWord

End While

Debugging Exercises: (4pts)

1. The use of an AND statement in line 10 means that the program will accept the user’s input as valid unless the user inputs a number which is both less than one and greater than ten.
2. There is no input statement within the while loop of this program, which means that the user, assuming they input something which qualifies as invalid, will never be able to change their input to something which is valid.

Programming Exercises: (6pts pseudocode, 7pts flowchart) \*\*\* PLUS –You can earn an extra 5pts Extra Credit for the Python code.

Homework 6 assignment, but this time the program must be case sensitive. The program needs to have input validation. //My original program did have input validation specifically for title case.

//May I re-use the same program for this assignment if I change the case

//sensitivity to lcase?

main()

Declare Integer pc

Declare String shootPC

Declare String shootPlayer

Set shootPC = “rock”

Set shootPlayer = “rock”

While shootPC == shootPlayer

Set pc = random(1, 3)

Call computerRPC(pc, shootPC)

Call userInput(shootPlayer)

If shootPC == shootPlayer, then

Display “The computer chose”, shootPC

Display “The computer and the player tied!”

End If

End While

Call gameResults(shootPC, shootPlayer)

End Module

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computerRPC(pc, shootPC)

If pc == 1, then

Set shootPC = “rock”

Else If pc == 2, then

Set shootPC = “paper”

Else

Set shootPC = “scissors”

End If

End If

End If

Return shootPC

End Module

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//

userInput(shootPlayer)

Display “Would you like to choose rock, paper, or scissors?”

Input shootPlayer

While shootPlayer ≠ “rock” AND shootPlayer ≠ “paper” AND shootPlayer ≠ “scissors”, then

Display “Please enter rock, paper, or scissors. This program is case sensitive.”

Input shootPlayer

End While

Return shootPlayer

End Module

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//

gameResults(shootPC, shootPlayer)

Display “The computer player chose”, shootPC

//Player win conditions

If shootPC == “rock” AND shootPlayer == “paper”, then

Display “The player has won!”

Else If shootPC == “paper” AND shootPlayer == “scissors”, then

Display “The player has won!”

Else If shootPC == “scissors” AND shootPlayer == “rock”, then

Display “The player has won!”

//Computer win conditions

Else If shootPC == “rock” AND shootPlayer == “scissors”, then

Display “The computer has won!”

Else If shootPC == “paper” AND shootPlayer == “rock”, then

Display “The computer has won!”

Else If shootPC == “scissors” AND shootPlayer == “paper”, then

Display “The computer has won!”

End If

End If

End If

End If

End If

End If

Return shootPC, shootPlayer

End Module

NOTE: Due to RAPTOR’s lack of sufficient string validation functions, you only need to validate for all upper case, all lower case and title case:

•ROCK

•rock

•Rock

The Raptor flowchart and Python code must be uploaded separately (your .rap file and your .py file), along with another document containing the answers to Algorithm Workbench and Debugging Exercise items.