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4-3 Assignment: Pseudocode Revisited

Procedure displayWelcomeMessage():

    Output "Welcome to the Higher/Lower Game!"

    Output "I'm thinking of a number between a lower and upper bound."

    Output "Try to guess the number!"

Procedure getUserBounds():

    Input lowerBound

    Input upperBound

    Return lowerBound, upperBound

Procedure generateRandomNumber(lowerBound, upperBound):

    Return random number between lowerBound and upperBound

Procedure getUserGuess(lowerBound, upperBound):

    Input userGuess

    While userGuess < lowerBound OR userGuess > upperBound:

        Output "Invalid guess. Try again."

        Input userGuess

    Return userGuess

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Procedure displayResult(actualNumber, userGuess):
    If userGuess < actualNumber:
        Output "Too low! Try again."
    Else If userGuess > actualNumber:
        Output "Too high! Try again."
    Else:
        Output "Congratulations! [userGuess] is the correct number."


Procedure playHigherLowerGame():
    Call displayWelcomeMessage()


    lowerBound, upperBound = Call getUserBounds()


    While lowerBound >= upperBound:
        Output "Error: The lower bound must be less than the upper bound."
        lowerBound, upperBound = Call getUserBounds()


    actualNumber = Call generateRandomNumber(lowerBound, upperBound)


    Repeat:
        userGuess = Call getUserGuess(lowerBound, upperBound)
        Call displayResult(actualNumber, userGuess)


    Until userGuess = actualNumber


    Output "Thanks for playing the Higher/Lower Game!"

Call playHigherLowerGame()
```