CS 112 Assignment 7i - Individual

Submit your finished code to the Dropbox. You will need to pass off the assignments with the TA or tutor during their office hours (their information is in the CS 112 Course Information section of the Table of Contents), or the instructor in class. Follow the formatting guide which is also found in the CS 112 Course Information section.

Read the instructions carefully. Make sure your output matches the example run.

THIS PROGRAM IS TO BE DONE INDIVIDUALLY.

No group or partner work on this assignment.

Program: get_valid_input ()

In this assignment, the code for the main() function will be given to you in the technical design section of this document. You will write the get_valid_input () function to do three different types of input validation. The function will have three parameters:

get_valid_input (question, warning, type)

- The question parameter will contain the string that your get_valid_input () function will use to ask the user for input
- The warning parameter will contain the string that your get_valid_input() function will use if they user enters the wrong type of input
- The type parameter will contain a string that will indicate which type of input validation you are doing. For this assignment, it will only have three options: “int”, “float”, or “YN”.

Key program requirements:

- Copy the code for the main() function from the technical design. Do not modify it.
- Write a function get_valid_input () that takes three parameters and returns the validated user input.
- Use of global variables is NOT allowed
- Use good naming conventions for all variables.

Technical Design:

The get_valid_input (question, warning, type) function will:

- Check the type parameter and perform one of three different tasks
    - If type == “int”, use the question and warning strings to validate input and return the user input as an int to the calling function
    - If type == “float”, use the question and warning strings to validate input and return the user input as a float to the calling function
    - If type == “YN”, use the question and warning strings to validate input and return the user input as a string containing either ‘Y’ or ‘N’ to the calling function

The main() function will simply test your function to ensure it is working properly:

- Copy the following code into your main() function. Do not modify this code. No other code is needed.

```
while True:
    #Get an int from the user
    intNum = get_valid_input("Please enter a whole number: ", "Invalid response. Please try again.","int")
    print("The whole number you entered was: ",intNum)
    print("Now we will test your whole number in a math equation...")
    print("Adding 10 to your whole number would be: 10 + " + str(intNum) + " = " + str(10+intNum))
    print()

    #Get a float from the user
    floatNum = get_valid_input("Please enter a float: ", "Invalid response. Please try again.","float")
    print("The float you entered was: ",floatNum)
    print("Now we will test your float in a math equation...")
    print("Adding 10 to your float would be: 10 + " + str(floatNum) + " = " + str(10+floatNum))
    print()

    playAgain = get_valid_input("Would you like to play again? ", "Invalid response.  Please answer with a 'Y' or 'N'", "YN")
    if playAgain == 'N':
        break
    print()
    print()
```

Example Run

```
Please enter a whole number: dog
Invalid response. Please try again.

Please enter a whole number: 5.5
Invalid response. Please try again.

Please enter a whole number: 5
The whole number you entered was:  5
Now we will test your whole number in a math equation...
Adding 10 to your whole number would be: 10 + 5 = 15

Please enter a float: cat
Invalid response. Please try again.

Please enter a float: 5.5
The float you entered was:  5.5
Now we will test your float in a math equation...
Adding 10 to your float would be: 10 + 5.5 = 15.5

Would you like to play again? monkey
Invalid response.  Please answer with a 'Y' or 'N'

Would you like to play again? 5.5
Invalid response.  Please answer with a 'Y' or 'N'

Would you like to play again? y


Please enter a whole number: 50
The whole number you entered was:  50
Now we will test your whole number in a math equation...
Adding 10 to your whole number would be: 10 + 50 = 60

Please enter a float: 3.14159
The float you entered was:  3.14159
Now we will test your float in a math equation...
Adding 10 to your float would be: 10 + 3.14159 = 13.14159

Would you like to play again? n
>>>
```