Project 1: Trivia Challenge

Purpose
Demonstrate familiarity with handling input/output operations, choosing the appropriate data type for variables, and basic math operations.

Description
Your task is to develop an interactive trivia quiz that adheres to the following criteria:

- The program should ask the user a series of five questions, encompassing various data types for the answers. You *must* store the answer in the most correct data type for each question, so be sure to read the following carefully. Specifically, you must include:

    - One question where the answer is a whole number (no decimal)
        - e.g., "How many states are in the United States?"
    - One question where the answer is text
        - e.g., "Who was the first president of the United States?"
    - One question where the answer is a True/False statement
        - e.g., "True or False: The sun is a star"
    - One question where the answer is decimal number
        - e.g., "What is the value of Pi up to the second decimal point?"
    - One question where the answer is a single character
        - e.g., "What is the first letter of the English alphabet?"

- After each question, read in the user's answer and display a message indicating whether the answer was correct or incorrect.

- For string answers, the program should be case-insensitive.
    - If the correct answer is "Chewbacca" and the user enters "chewbacca," it should be counted as correct.

- For the True/False question, the user's answer should be read in as "true" or "false" and case insensitive.

- At the end of the quiz, inform the user how many questions they got correct and calculate their percentage score
    - e.g., "You got 3 out of 5 right, for a score of 60%"

To get full credit, you must use the most correct data types for each question. Use of Object or Generics will result in loss of points. (If you don't know what that is, don't worry about this!)

Feel free to be creative with your questions and the messages you display for correct or incorrect answers, but please keep the content appropriate. A good rule of thumb is not to submit anything you wouldn't want your mom to see.

Examples

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Who was the first president of the United States
gEoRGe wASHingTon
Correct!
How many states in the United States
48
Incorrect!
True or False: The sun is a star
True
Correct!
What is the value of Pi up to the 2nd decimal place?
3.15
Incorrect!
What is the first letter of the English alphabet?
b
Incorrect!
You got 2 out of 5 right, for a score of 40%
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Sample Trivia Challenge run

Rubric

Projects that do not compile will receive a zero (0)

- [10 pts] The program asks the user five total questions.
- [10 pts] The program reads in answers to each question and displays a message in response.
- [10 pts] One question has a whole number answer stored in the most correct data type, and the program correctly reads in the user's answer and assesses its correctness.
- [10 pts] One question has a text answer stored in the most correct data type, the program correctly reads in the user's answer and assesses its correctness, and capitalization is ignored.
- [10 pts] One question has a true/false answer stored in the most correct data type, and the program correctly reads in the user's answer and assesses its correctness.
- [10 pts] One question has a decimal number answer stored in the most correct data type, and the program correctly reads in the user's answer and assesses its correctness.
- [10 pts] One question has a single character answer stored in the most correct data type, and the program correctly reads in the user's answer and assesses its correctness.
- [10 pts] The user's performance (number correct out of total number and percent correct) is correctly calculated and stated at the end.
- [20 pts] The program is clearly organized, commented, and follows standard coding conventions (including variable, class names, and closing streams).