First Problem Solving

https://csci-1301.github.io/about#authors

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Contents

1 Problem Solving

Those problems are fairly advanced considering our progress so far. Have a look at them, make an attempt, but don't feel bad if you don't succeed.

1.1 A Guessing Game

Write a program that

1. Stores your favorite number in a variable.
2. Asks the user to enter a numerical value, and stores the user's answer in a variable.
3. With an `if` statement, displays on the screen "You guessed correctly" if the number entered by the user is your favorite number.
4. Once this part of the program works, add an `if` statement that displays on the screen "Too high!" if the number entered by the user is strictly greater than your favorite number.
5. Once this part of the program works, add an `if` statement that displays on the screen "Too low!" if the number entered by the user is strictly lower than your favorite number.
6. Once this part of the program works, add an `if` statement that displays on the screen "You found a multiple of my favorite number!" if the number entered by the user is a multiple of your favorite number, but different from it.

You can adjust your program so that e.g. if the user enters a number that is at the same time higher and a multiple of your favorite number, only one message is displayed.

A solution is proposed in this archive[1].

[1] GuessingGame.zip

1.2 Computing the Entry Price

You are asked to write a simple program that computes the total price for a group of people to enter a park.

Your program should:

- Ask the user how many adults and how many children want to enter the park,
- If the group comprises 6 persons or more, offer to sell a group pass for $30 (that allows everyone in the group to enter the park),
- Compute and display the total price on the screen, knowing that:
  - Adults pay $7,
  - Children pay $4,
  - *If* purchasing the group pass allowed the group to save money (which isn't always the case!), you should display on the screen the amount saved.

Some tips:

- When asking "yes" / "no" questions, treat "y" and "Y" as a "Yes", and any other string as a "No".
- Note that we will sell the pass even if the user is not gaining money by doing so (for instance, if 6 children want to enter, $\$4 \times 6 = \$24 < \$30$, but we would still sell them the pass).