MTH 3300 Problem Set 6

Due date: April 1, 2025

For the programming assignment, please follow the following naming convention for your Python files.
`mth3300_<lastname>_<firstname>_pset6_part<#>.py`

Please make sure to logically organize your code into appropriate functions that are **easily** testable.

1. (30 points) You are given a text file only containing the following characters: `{[()]}`. You find out that each character actually denotes by how many flights of stairs someone either goes up or down with each step. You find out that the following rule exists:

   - `{` means that you go up 1 step while `}` means you go down 1 step
   - `[` means that you go up 2 steps while `]` means you go down 2 steps
   - `(` means that you go up 3 steps while `)` means you go down 3 steps

   Along with this homework assignment, you should have downloaded `mth3300_pset6_problem1.txt` which should contain the text input I talked about for the problem.

   (a) For the first part, your task is to figure out what is the net number of steps that you've taken parsing this input field.

   (b) For the second part, your task is to find out the number of unique floors you've visited throughout the entire input.