KenKen

Eckel, TJHSST AI1, Fall 2022

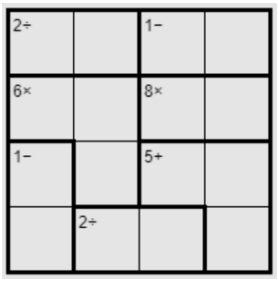
Background & Explanation

As an alternative to BLACK credit for Sudoku, you can instead solve a different but related puzzle – KenKen. This twists the ideas of Sudoku in a couple of interesting ways – if you've never tried a KenKen puzzle before you might enjoy trying it yourself too!

On Simon Tatham's website, you can find the game called "Keen"; elsewhere, google "KenKen". This handout does **not** explain the rules, so read the rules yourself and feel free to ask if you have any questions!

You can solve this puzzle any way you want. There are no rules about data structure or method (except for the usual stipulations that you can't google a solution or import any non-standard libraries). It just has to work. The default size on Simon Tatham's page is 6x6, but I'll ask you to go a bit bigger. "7x7 Unreasonable", in the custom game selector, will be the most difficult puzzle I generate. I will also use some smaller test cases to make sure you aren't hardcoding that.

The input convention will go like this. Every arithmetic constraint set will be given a letter. Then, after the puzzle string, each letter will be matched to the constraint on that set. For example, see this puzzle and its text file representation:




```
AABBCCDDECFFEGGF
A 2 /
B 1 -
C 6 x
D 8 x
E 1 -
F 5 +
G 2 /
```

Submit a single Python script to the link on the course website.

This assignment is **complete** if:

- You follow the instructions on the submission form to format your submission properly.
- Your code does all of the following:
  - Accept one **command line argument** – the name of a file.
  - Read **one puzzle** out of the file, with formatting as specified above.
  - Output a single string (just like sudoku) of the solution to the puzzle.
- Total runtime is less than 2 minutes (ie, ensure that a single 7x7 Unreasonable puzzle runs in under a minute).