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W18: Python Fundamental for Data Science

PROJECT 1 PROPOSAL: Sudoku

Description: The game is designed to have user enter any number 1 to 9 on a 9x9 box, with none smaller 3x3 boxes for a total of 81 cells. I would create a 9 x 9 grid, check if user enter one number per row and column. No repeating number on the overlapped row and column. User would input the number on a (x, y) axis that user specify.

Modules to be imported: asgparse, Tkinter (graphical user interface framework)

Global variables: Boards, Margin, Side, Width, Height

Class SudokuGrid:

This class will be the number class that stores the possible numbers in an range attribute from 1 to 9.

Attributes:

x = row value range 1 to 9

y = column value range from 1 to 9

def \_\_init\_\_(self, board):

A function that enter the number in the specified cell (x, y)

def \_\_draw\_grid(self):

A function that draw the grid by adding margin, width and height to the board

Class Check:

This class will have the function to check the logic of the game, if a number is duplicated in the overlapping row and column

Class View:

This class would allow user to view their game thus far by printing out all the numbers entered.

Function: to print the grid with all correct inputs.

Class Error:

This class will define the Exceptions that specific to the game

A function that would print out error messages like:

“Number coincides with another number in the same column or row or 3x3 box. Enter another number.”

<https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-s095-programming-for-the-puzzled-january-iap-2018/puzzle-8-you-wont-want-to-play-sudoku-again/>