AP Computer Science

Text Excel Project

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Design:

-Object Oriented

Class Hierarchy:

Default Package:

-Main Class:

-Main:

-Sets up Scanner

-Deals with user input and decides what to do with it

-catches errors

-Spreadsheet:

-Constructor that sets up empty spread sheet

-Methods:

- print: prints out the entire spreadsheet including the blocks and the data within the blocks

-return12: Takes the data for the block and creates a 12 character long string. If it is originally larger than 12, then it will add a “>” at the end to indicate that it is larger than 12 characters. If it is smaller than 12 characters, it will add the sufficient spaces for the block. This only has to do with printing the spreadsheet, it doesn’t do this when a user asks what is inside a certain block.

-toStringCell: creates a new string cell at the given position and fills it with the given data

-toDoubleCell: creates a new double cell at the given position and fills it with the given data

-toDataCell: creates a new date cell at the given position and fills it with the given data.

-printContents: prints the data within the cell

-clear: creates empty cells in every cell (clears all data)

-findPos: finds position on the spreadsheet based off the user’s string

-getSaveData: creates a string array holding all the oContents from the Cells in the spreadsheet.

-loadFrom: creates a string array from the specified file the user is loading from containing the oContents of Cells.

-setCell: calls the decide method for choosing what type of cell it is

-getValue: gets the contents from the cell of the specified position

-sort: sorts the specified cells either in ascending or descending order.

-Cell:

-abstact method for toString()

-Methods:

-oContents: returns the original contents.

-decide: creates the type of cell based on the user input

-Position:

-holds two integers for the row and column of the cell (a.k.a the position)

-DataCell, EmptyCell, StringCell, DoubleCell:

-Constructor that parses the data within the cell

-Methods:

-toString: returns the data, a string, within the cell.

-FormulaCell:

--Constructor that parses the data within the cell

-Methods:

-toString: returns the data, a string, within the cell.

- math: parses the formula, and then does the specified operation of the two next numbers in the equation.

-getVal: gets the value of the next number whether it is a reference or a double

-sum: gets the sum of the specified cells

-avg: gets the average of the specified cells

Persistence package:

Savable:

-interface:

-getSaveData – method that returns string array

-loadfrom: loads the data from the string array

PersistenceHelper:

-save: saves the cell to a file holding the elements of the array

-load: returns an array holding the elements from the file