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Class Helper

- String _name — name of the Helper
- int _level — current level of the Helper
- String _upgrade — current tier of upgrades

----------METHODS----------

- Helper() — default constructor that initializes _level and _upgrade
- String name() — accessor for _name
- int level() — accessor for _level
- String upgrade() — accessor for _upgrade
- void levelUp() — indicates that the Helper has leveled up by setting the _level to _level + 1. Note: the actual increases will be handled in the subclasses.
- void upgradeUp() — indicates that the Helper has leveled up by setting the _upgrade to _upgrade+ 1. Note: the actual effects will be handled in the subclasses.
- String[] stats() — returns the stats of a Helper (name, level, and upgrade tier) in a 1-D array

The superclass, with Miner, Engineer, and Gambler as its subclasses. What else is there to say?

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Class Miner

- int _baseGoldPS — base value of the gold rate
- int _additionGoldPS — addition bonus received from upgrades
- int _multiGoldPS — multiplier bonus received from upgrades

----------METHODS----------

- Miner() — default constructor. Initializes _baseGoldPS, _additionGoldPS, and _multiGoldPS.
- Miner(String name) — overloaded constructor. Initializes _name.

A Helper that produces gold per second.

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Class Engineer

- int _baseGoldPKP — base value of the gold rate
- int _additionGoldPKP — addition bonus received from upgrades
- int _multiGoldPKP — multiplier bonus received from upgrades

----------METHODS----------

- Engineer() — default constructor. Initializes _baseGoldPKP, _additionGoldPKP, and _multiGoldPKP.
- Engineer(String name) — overloaded constructor. Initializes _name.

A Helper that produces gold per key press.

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Class Gambler

- int _luck — the amount of luck that helps increase the chances of winning the lottery
- final int _glevel — caps the _level value at 1

----------METHODS----------

- Gambler() — default constructor. Initializes _luck and _glevel (which is the _level value).
- Gambler(String name) — overloaded constructor. Initializes _name.
- int level() — overwritten accessor. Returns _glevel instead of _level.

A peculiar type of Helper that does not produce gold; instead, it exists to increase the chances of winning the lottery. In addition, the Gambler does not level up; hence the overwritten accessor of level().

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Class DataStorage

- String[][] _miners — 2-D array with a list of miners, detailing their names, levels, upgrades, and upgrade type
- String[][] _engineers — 2-D array with a list of engineers, detailing their names, levels, upgrades, and upgrade type
- String[][] _gamblers — 2-D array with a list of gamblers, detailing their names, upgrades, and upgrade type

----------METHODS----------

- String minerList() — returns a String containing a formatted table using _miners
- String engineerList() — returns a String containing a formatted table using _engineers
- String gamblerList() — returns a String containing a formatted table using _gamblers
- void addMiner (Miner m) — adds a Miner to _miners. This includes names, levels, upgrades, and upgrade type.
- void addEngineer (Engineer e) — adds an Engineer to _engineers. This includes names, levels, upgrades, and upgrade type.
- void addGambler (Gambler g) — adds a Gambler to _gamblers. This includes names, upgrades, and upgrade type.
- String sortList(String[][] helper, int col) — sorts in ascending order based on the selected columns. Rows are switched to the appropriate spots

Example of the formatted table as outputted in the terminal (for miners):

Name	Level	Upgrade Tier	Gold
Bill	2	I	30 (Additive)
Maggie	20	III (max)	1.3 (Multiplicative)
Raunak	5	II	45 (Additive)

This class essentially acts as our data storage — all Helpers are tracked using this object. When another Helper is purchased, it is added to the array of the Helper subclass it belongs to. If a certain subclass of Helper needs to be seen by the user, then that respective <Helper>List() method is invoked.

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Class Events

----------METHODS----------

- Boolean isEarthquake() — determines if there should be an earthquake event
- Boolean isThunderstorm() — determines if there should be a thunderstorm event
- Boolean isBankruptcy() — determines if there should be a bankruptcy event
- Boolean isRobbery() — determines if there should be a robbery event
- Boolean jackpot(double luck) — determines if there should be a lottery event, based on the luck value

NOTE: All methods are static

A class that provides the RNG-based event activations.

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Class UserInterface

----------METHODS----------

- void introUI() — prints out the “GOLFINGER” ASCII art
- void mainUI() — prints out the UI for the main action (pressing SPACE)
- void storeUI() — prints out the store menu
- void helpUI() — prints out a set of instructions/controls for the game

NOTE: All methods are static

This class is essentially stores our templates for the terminal, and are printed upon function call. This is an effort to reduce clutter in class Woo

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Class Store

----------METHODS----------

- buyMiner() — “purchases” or creates a new Miner object for a given amount of gold, starting from level 1 and upgrade I
- buyEngineer() — “purchases” or creates a new Engineer object for a given amount of gold, starting from level I
- buyGambler() — “purchases” or creates a new Gamber object for a given amount of gold, starting from level I
- upgradeMiner() — gives all Miners a stat upgrade (boosts one of its instance variables permanently, for all current and future objects of that class)
- upgradeEngineer() — gives all Engineer a stat upgrade (boosts one of its instance variables permanently, for all current and future objects of that class)
- upgradeGambler() — gives all Gamblers a stat upgrade (boosts one of its instance variables permanently, for all current and future objects of that class)
- levelMiner() — increases the level of one Miner, and thus improves its gold producing capabilities
- levelEngineer() —increases the level of one Engineer, and thus improves its gold producing capabilities
- levelGambler() — increases the level of one Gambler, and thus improves its gold producing capabilities
- buyPowerUp() — allows user to purchase a power up, which temporarily boosts stats

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Class Woo

_gold - unspent accumulated gold

_baseGoldPKP - final variable = 1 [starting amount per “click”]
_additiveGoldPKP - total amount additive engineers contribute
_multiGoldPKP - total amount multiplicative engineers contribute
_totalGoldPKP - (_baseGoldPKP + _additiveGoldPKP) * _multiGoldPKP

_additiveGoldPS - total amount additive miners contribute
_multiGoldPS - total amount multiplicative miners contribute
_totalGoldPS - _additiveGoldPKP * _multiGoldPKP

_baseLuck - final variable = 0.0005 [probability of winning lottery]
_additiveLuck - total amount additive gamblers contribute
_multiLuck - total amount multiplicative engineers contribute
_totalLuck - (_baseLuck + _additiveLuck) * _multiLuck

_stats - array of player statistics
- _stats[0] - total gold ever earned
- _stats[1] - number of miners
- _stats[2] - number of engineers
- _stats[3] - number of gamblers
- _stats[4] - number of spaces entered by player
- _stats[5] - number of powerups activated by player