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10/1/16

IT 206-001 Programming Assignment 3

1)

Data Definition Class: Position  
 Assigns valid input to Position object

Implementation Class: PositionTracker  
Gets user input and track all positions.

2)

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| --- | --- |
| (+) STATUS: String array | Stores an array of valid Status |
| (-) numPosition: int | Counter which keeps track of the number of positions the program is tracking |
|  |  |
| (-) positionTitle: String | The title of the position |
| (-) positionDepartment: String | The department the position belongs to |
| (-) positionStatus: String | The status of the position |
| (-) numPeopleSupervise: int | Number of people they are responsible to supervise |
| (-) startingSalary: double | The starting salary |
|  |  |
| (+) Position () | Default constructor |
| (+) Position (positionTitle, positionDepartment, positionStatus, numPeopleSupervise, startingSalary) | Constructor with starting salary |
| (+) Position (positionTitle, positionDepartment, positionStatus, numPeopleSupervise) | Constructor without starting salary |
|  |  |
| (+) getNumPosition (): int | Returns the number of positions |
| (+) getPositionTitle (): String | Returns the position title |
| (+) getStartingSalary (): double | Returns starting salary |
|  |  |
| (+) setPositionTitle(positionTitle): Boolean | Sets the position title |
| (+) setPositionDepartment(positionDepartment): Boolean | Sets the position’s department |
| (+) setPositionStatus(positionStatus): Boolean | Sets the position status |
| (+) setNumPeopleSupervise(numPeopleSupervise): Boolean | Sets the number of people they supervise |
| (+) setStartingSalary(startingSalary): Boolean | Sets the starting salary |
|  |  |
| (+) validateInList (positionTitle, Position [], positionCount) | Checks if position title has already been entered |
| (-) validateString(String) | Checks if user input if an empty string |
| (-) validateStatus(positionStatus) | Checks if status entered is a valid status |
| (-) validatePosIntWZero(numPeopleSupervise) | Checks if integer is 0 or greater |
| (-) validatePosDouble(startingSalary) | Checks if double is 0 or greater |
|  |  |
| (+) requireSalary () | Checks if position needs a salary based on position status |
| (+) toString () | Creates a message of all positions and descriptions |
| (+) toString(highestSalary) | Creates a message for highest salary with position title, department, and starting salary. |
| (+) decreasePositionCount () | Decrease the count for the number of positions. |

3)

Method: main  
Purpose: Starting by continually asking for user input to perform one of five action. Add position, delete position, display position, find highest salary, and exit application.  
Input: none  
Returns: void

Method: getMenuOption  
Purpose: Ask the user which application option they would like to choose  
Input: none  
Returns: void

Method: addPosition  
Purpose: This method will allow for the creation and population of a new position object based on position title, position department, position status, number of employees they supervise, and starting salary.  
Input: tracker: Position – array with position object  
Returns: void

Method: getPositionTitle  
Purpose: This method will ask the user for position title  
Input: none  
Returns: positionTitle: String – position title

Method: getPositionDepartment  
Purpose: This method will ask the user for the department the position belongs to.  
Input: none  
Returns: positionDepartment: String – position deparment

Method: getPositionStatus  
Purpose: The method will ask for the status of the position  
Input: none  
Returns: positionStatus: String – position status

Method: getNumPeopleSupervise  
Purpose: This method will get the number of people the position supervises  
Input: none  
Returns: numPeopleSupervise: int – number of people they supervise

Method: getStartingSalary  
Purpose: This method will get the starting salary if needed.  
Input: none  
Returns: startingSalary: double – starting salary

Method: deletePosition  
Purpose: This method will ask the user which position they would like to remove from the program  
Input: tracker: Position – the array with position object  
Returns: void

Method: getRemovePositionList  
Purpose: Generates a list of all positions entered for the user to select which they would like to remove  
Input: tracker: Position – the array with position objects  
positionCount: int – the number of positions entered  
Returns: removeMessage: String – the output message with a list of position titles to select to remove

Method: reorderList  
Purpose: This method will remove the desired position and rearrange the positions so there are no empty position objects in the object array of positions  
Input: removePosition: String – the position the user would like to remove  
tracker: Position – the array with position objects  
positionCount: int – the number of positions entered  
Returns: void

Method: displayAllPosition  
Purpose: this method will display a list of all position with title, department, status, number of people they supervise, and starting salary if applicable.  
Input: tracker: Position – the array with position objects  
Returns: void

Method: getDisplayAllPositionList  
Purpose: This method will generate a list of all positions with title, department, status, number of people they supervise, and starting salary if applicable.  
Input: tracker: Position – the array with position objects  
positionCount: int – the number of positions entered  
Returns: displayAllPositionList: String – a list of all positions with all the available details

Method: findHighestSalary  
Purpose: This method will display the position title, department, and starting salary of the position with the highest starting salary. If multiple position has the same highest starting salary, then it will display all of them.  
Input: tracker: Position – array of position object  
Returns: void

Method: getHighestSalary  
Purpose: Find the value of the highest salary of all positions.  
Input: tracker: Position – array of position object  
positionCount: int – number of positions entered  
highestSalary: double – highest salary  
Returns: highestSalary: double – highest salary

Method: getHighestSalaryList  
Purpose: creates a string message with the position title, department, and starting salary of the highest starting salary.  
Input: tracker: Position – array of position object   
positionCount: int – number of positions entered  
highestSalary: double – highest salary  
Returns: highestSalaryList: String – list of positions with the highest salary