Hr system



By Charlie Zhang

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# **Requirement Specification**

Design and code a simple HR system which will hold details of the employees across four main departments, Sales, Production, Finance and Marketing.

The interface should be designed using a switch statement to call relevant methods and logical program blocks, the program should:

* Allow a user to create a new employee.
* Add it to an existing department.
* The details of each employee’s annual salary.
* The system should allow the user to
  + create new departments.
  + Allow the user to print all employees.
  + All departments.
  + Employees by department.
  + The total value of the salaries per department and for the organisation. (Array Lists should be used).

Your program should also -

* Contain at least two classes (not including Main)
* Feature appropriate data types to simulate and/or model the problem.
* Use logical program blocks.
* Correctly implements a control structure, e.g., if statement
* Use a repetition statement, e.g., while loop, do-while loop, for loop
* Contain meaningful comments and suitably indented code.

Appropriate program documentation to include an:

* Algorithm
* Pseudo-code
* UML Class Diagrams
* Javadoc
* Relevant screen captures
* Digital/Visual evidence of the development cycle
* Indicative critical reasoning.

# **Design**

The display should be user friendly.

What employees needs

* Employee Id
* Department
* Surname
* Last name
* Anunual Salary

Display UI (Front End)

* 1. Press 1 for Employee Menu
     1. Create New Employee
        1. Enter Surename
           1. Enter First Name

What is the Employees Annual Salary?

Choose Department by Department Number

* + 1. Press 2 to Edit an Employee
       1. Choose Employee by Number
          1. Press 1 to Change Surname

Enter Surename

Enter First Name

What is the Employees Annual Salary?

Choose Department by Department Number

* + - * 1. Press 2 to Change First Name
        2. Press 3 to Change Employees Salary
        3. Press 4 to Change Employees Department
        4. Press M to Return to Employee Menu
    1. Press 3 to Dismiss an Employee
       1. Choose Employee by Number
    2. Press 4 to View Employees
    3. Press 5 to View Cost of all Annual Salaries per OrganizationBy Departments
    4. Press M to return to main menu
  1. Press 2 for Department Menu
     1. Press 1 to Create New Department
        1. Enter Department name
     2. Press 2 to Edit a Department
        1. Choose Department by Number
           1. Please Enter New Name to Replace Sales
     3. Press 3 to Remove a Department
        1. Choose Department by Number
     4. Press 4 to View All Departments
     5. Press 5 to View Total Employees Annual Salaries by Department
     6. Press M to Return to Main Menu
  2. Press X to Exit

## **Algorithm**

Algorithm for createDepartment()

This prints a line, It create a new Department object “a”, Set the department number of the new object to the value of centralDepartmentNumber, Adds one to the counter for"centralDepartmentNumber" to make sure that each new department has a different number, Ask for department name, It prints a line, Capture the user's input using a BufferedReader object "reader", Set the department name of the new object "a" to the user's input and adds the new Department object "a" to the "allDepartments" list.

## **Pseudo Code**

Pseudo Code for adding all combined salaries combinedSalarys() in company.

1. Set up a DecimalFormat object with a currency and formated pattern.

2. Initialize a double variable named "totalSalary" to 0.

3. For each employee in the Employee Object in the collection "allEmployees":

a. Retrieve the employee's salary using the "getEmployeeSalary" method.

b. Add all the employee's salary to the totalSalary variable

4. Print a line in console to for a allow a cleaner UI.

5. Using "currency.format" method print the totalSalary variable

6. Print a line in console to for a allow a cleaner UI.

## **ULM Class Diagrams**

UML (Unified Modelling Language) Class diagrams are a type of diagram used in software development to visually represent the classes and their relationships in an object-oriented system

My two UML Class Diagrams are below:

Text

Description automatically generated with medium confidenceTable

Description automatically generated

# **Implementation**

Here are three screenshots in the implementation cycle.

Text

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Text

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Text

Description automatically generated

# **Testing**

The main objective of the testing phase is to ensure that the software system functions as expected and meets the requirements and specifications defined in the design phase.

**Debugging is the process of identifying and removing errors from computer hardware or software.**

**Here are 2 Screenshots of my debugging**A screenshot of a computer

Description automatically generated with medium confidence

Text

Description automatically generated

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I had a problem with this Text

Description automatically generated

I later found out the problemA picture containing text

Description automatically generated

I had put two centralDepartmentNumber++

So, I removed one of them

A screenshot of a computer

Description automatically generated with medium confidenceand its works