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| **Employee** |
| -firstName: String  -lastName: String  -sex: String  -province: String  -city: String  -address: String  -phoneNum: String  -department: String  -position: String  -employeeID: String  -socialSecurityNum: String  -dateOfBirth: GregorianCalendar |
| **<<Constructor>>**  Employee(String name)  Employee(String firstName, String lastName, String sex, String province, String city, String address, String phoneNum, String department, String position, String socialSecurityNum, int yearOfBirth, int monthOfBirth, int dayOfBirth)  **<<Accessor Methods>>**  +getFirstName(): String  +getLastName(): String  +getSex(): String  +getProvince(): String  +getCity(): String  +getAddress(): String  +getPhoneNum(): String  +getDepartment(): String  +getPosition: String  +getEmployeeID: String  +getSocialSecurityNum: String  +getDateOfBirth(): GregorianCalander  +toString(): String  **<<Mutator Methods>>**  +setEmployeeID()  +setFirstName()  +setLastName()  +setSex()  +setProvince()  +setCity()  +setAddress()  +setPhoneNum()  +setDepartment()  +setPosition()  +setEmployeeID()  +setSocialSecurityNum()  +setDateOfBirth()  **<<Abstract Methods>>**  +getPay(): BigDecimal |

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| **CommissionSalesEmployee**  **Extends Employee** |
| -commissionRates: BigDecimal  -sales: BigDecimal |
| **<<Constructor>>**  CommissionSalesEmployee(String firstName, String lastName, String sex, String province, String city, String address, String phoneNum, String department, String position, String socialSecurityNum, int yearOfBirth, int monthOfBirth, int dayOfBirth, BigDecimal wage, BigDecimal commissionRates)  **<<Accessor Methods>>**  +getCommissionRates(): BigDecimal  +getSales() : BigDecimal  +toString(): String  **<<Mutator Methods>>**  +setCommissionRates()  +setSales()  +addSales()  **<<Overridden Methods>>**  +getPay(): BigDecimal |

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| **BasePlusCommissionEmployee**  **Extends CommissionSalesEmployee** |
| -baseSalary: BigDecimal |
| **<<Constructor>>**  BasePlusCommissionEmployee(String firstName, String lastName, String sex, String province, String city, String address, String phoneNum, String department, String position, String socialSecurityNum, int yearOfBirth, int monthOfBirth, int dayOfBirth, BigDecimal wage, BigDecimal commissionRates, BigDecimal baseSalary)  **<<Accessor Methods>>**  +getBaseSalary(): BigDecimal  +toString(): String  **<<Mutator Methods>>**  +setBaseSalary()  **<<Overridden Methods>>**  +getPay(): BigDecimal |

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| **HourlyEmployee**  **Extends Employee** |
| -hoursWorked: Double  -wage: BigDecimal |
| **<<Constructor>>**  HourlyEmployee(String firstName, String lastName, String sex, String province, String city, String address, String phoneNum, String department, position, String socialSecurityNum, int yearOfBirth, int monthOfBirth, int dayOfBirth, BigDecimal wage)  **<<Accessor Methods>>**  +getHoursWorked(): double  +getWage(): BigDecimal  +toString(): String  **<<Mutator Methods>>**  +setHoursWorked()  +addHoursWorked()  +setWage()  **<<Overridden Methods>>**  +getPay(): BigDecimal |

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| **SalaryEmployee**  **Extends Employee** |
| -salaryType: String  -salaryAmount: BigDecimal |
| **<<Constructor>>**  SalaryEmployee(String firstName, String lastName, String sex, String province, String city, String address, String phoneNum, String department, String position, String socialSecurityNum, salaryType, int yearOfBirth, int monthOfBirth, int dayOfBirth, salaryAmount)  **<<Accessor Methods>>**  +getSalaryType(): String  +getSalaryAmount(): BigDecimal  +toString(): String  **<<Mutator Methods>>**  +setSalaryType()  +getSalaryAmount()  **<<Overridden Methods>>**  +getPay(): BigDecimal |

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| **Product** |
| -name: String  -productID: String  -price: BigDecimal  -discount: BigDecimal  -mfact: Manufacturer |
| **<<Constructor>>**  Product(String name)  Product(String name, BigDecimal price, BigDecimal discount, Manufacturer mfact)  **<<Accessor Methods>>**  +getName(): String  +getProductID(): String  +getPrice(): BigDecimal  +getDiscount(): BigDecimal  +getMfact (): Manufacturer  +toString(): String  **<<Mutator Methods>>**  +setName()  +setProductID()  +setPrice()  +setDiscount()  +setProductID()  +setMfact() |

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| **Manufacturer** |
| -name: String  -province: String  -city: String  -address: String  -phoneNum: String  -mfactID: String |
| **<<Constructor>>**  Manufacturer(String name)  Manufacturer (String name, String country, String province, String city, String address, String phoneNum)  **<<Accessor Methods>>**  +getName(): String  +getProvince(): String  +getCity(): String  +getAddress(): String  +getPhoneNum(): String  +getMfactID(): String  +toString(): String  **<<Mutator Methods>>**  +setMfactID()  +setName()  +setProvince()  +setCity()  +setAddress()  +setPhoneNum() |

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| **Customer** |
| -firstName: String  -lastName: String  -sex: String  -province: String  -city: String  -address: String  -phoneNum: String  -yearOfbirth: int  -monthOfBirth: int  -dayOfbirth: int  -customerSince: GregorianCalendar |
| **<<Constructor>>**  Customer(name)  Customer(String firstName, String lastName, String sex, String province, String city, String address, String phoneNum, yearOfBirth, int monthOfBirth, int dayOfBirth)  **<<Accessor Methods>>**  +getFirstName(): String  +getLastName(): String  +getSex(): String  +getProvince(): String  +getCity(): String  +getAddress(): String  +getPhoneNum(): String  +getCustomerID (): String  +getYear(): int  +getDateOfBirth(): GregorianCalendar  +getCustomerSince(): GregorianCalendar  +toString(): String  **<<Mutator Methods>>**  +setFirstName()  +setLastName()  +setSex()  +setProvince()  +setCity()  +setAddress()  +setPhoneNum() |

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| **Sale** |
| -salesID: String  -product: Product  -customer: Customer  -employee: Employee  -dateOfSale: GregorianCalendar |
| **<<Constructor>>**  Manufacturer Sale(Product product, Customer customer, Employee employee, BigDecimal comm)  **<<Accessor Methods>>**  +getSalesID(): String  +getProduct(): Product  +getCustomer(): Customer  +getEmployee(): Employee  +getComm(): BigDecimal  +getDateOfSale(): GregorianCalendar  +toString(): String  **<<Mutator Methods>>**  +setSaleID()  +setProduct()  +setCustomer()  +setEmployee()  +setComm() |

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| **Main** |
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| +main() |

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| **Validation** |
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| +isValid(String)  +isValid(int)  +isValid(double)  +isValid(BigDecimal)  +isValid(BigDecimal, BigDecimal)  +isValid(GregorianCalendar, Boolean, Boolean)  +isValid(ArrayList)  +isValidName(String, Boolean)  +isValidSex(String)  +isValidRdoBtns(JPanel)  +isValid(JComboBox)  +isValidPhoneNum(String) |

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| **Utils** |
| -isAdmin: Boolean  +ACTION\_CREATE: String  +ACTION\_EDIT: String  +ACTION\_DELETE: String  -empID: int  -mfactID: int  -productID: int  -customerID: int  -saleID: int  +EMP\_TYPE\_NONE: int  +EMP\_TYPE\_HOURLY: int  +EMP\_TYPE\_BASE\_PLUS\_COMMISSION: int  +EMP\_TYPE\_COMMISSION: int  +EMP\_TYPE\_SALARY: int  -\_debugMode: Boolean |
| +getIsAdmin(): String  +setIsAdmin(String)  +setDebugMode(Boolean)  +generateEmpID(): String  +generateMfactID(): String  +generateProductID(): String  +generateCustomerID(): String  +generateSaleID(): String  +tryParse(): Boolean  +logError()  +debug(String)  +debug(String, String)  +showConfirmDialog(String)  +showError(String)  +isEmpty(String): Boolean  +isZero(BigDecimal): Boolean  +escape(String, String): String  +judgeEmployeeType(BigDecimal, BigDecimal, BigDecimal): int |