**Package = payxpert**

**Employee.java**

package payxpert;

import java.time.LocalDate;

public class Employee {

private int employeeID;

private String firstName;

private String lastName;

private LocalDate dateOfBirth;

private String gender;

private String email;

private String phoneNumber;

private String address;

private String position;

private LocalDate joiningDate;

private LocalDate terminationDate;

public Employee() {}

public Employee(int employeeID, String firstName, String lastName, LocalDate dateOfBirth, String gender,

String email, String phoneNumber, String address, String position, LocalDate joiningDate,

LocalDate terminationDate) {

this.employeeID = employeeID;

this.firstName = firstName;

this.lastName = lastName;

this.dateOfBirth = dateOfBirth;

this.gender = gender;

this.email = email;

this.phoneNumber = phoneNumber;

this.address = address;

this.position = position;

this.joiningDate = joiningDate;

this.terminationDate = terminationDate;

}

public int getEmployeeID() { return employeeID; }

public void setEmployeeID(int employeeID) { this.employeeID = employeeID; }

public String getFirstName() { return firstName; }

public void setFirstName(String firstName) { this.firstName = firstName; }

public String getLastName() { return lastName; }

public void setLastName(String lastName) { this.lastName = lastName; }

public LocalDate getDateOfBirth() { return dateOfBirth; }

public void setDateOfBirth(LocalDate dateOfBirth) { this.dateOfBirth = dateOfBirth; }

public String getGender() { return gender; }

public void setGender(String gender) { this.gender = gender; }

public String getEmail() { return email; }

public void setEmail(String email) { this.email = email; }

public String getPhoneNumber() { return phoneNumber; }

public void setPhoneNumber(String phoneNumber) { this.phoneNumber = phoneNumber; }

public String getAddress() { return address; }

public void setAddress(String address) { this.address = address; }

public String getPosition() { return position; }

public void setPosition(String position) { this.position = position; }

public LocalDate getJoiningDate() { return joiningDate; }

public void setJoiningDate(LocalDate joiningDate) { this.joiningDate = joiningDate; }

public LocalDate getTerminationDate() { return terminationDate; }

public void setTerminationDate(LocalDate terminationDate) { this.terminationDate = terminationDate; }

public int calculateAge() {

if (dateOfBirth == null) return 0;

LocalDate today = LocalDate.*now*();

int age = today.getYear() - dateOfBirth.getYear();

if (today.getMonthValue() < dateOfBirth.getMonthValue() ||

(today.getMonthValue() == dateOfBirth.getMonthValue() && today.getDayOfMonth() < dateOfBirth.getDayOfMonth())) {

age--;

}

return age;

}

}

**FinancialRecord.java**

package payxpert;

import java.time.LocalDate;

public class FinancialRecord {

private int recordID;

private int employeeID;

private LocalDate recordDate;

private String description;

private double amount;

private String recordType;

public FinancialRecord() {}

public FinancialRecord(int recordID, int employeeID, LocalDate recordDate, String description,

double amount, String recordType) {

this.recordID = recordID;

this.employeeID = employeeID;

this.recordDate = recordDate;

this.description = description;

this.amount = amount;

this.recordType = recordType;

}

public int getRecordID() { return recordID; }

public void setRecordID(int recordID) { this.recordID = recordID; }

public int getEmployeeID() { return employeeID; }

public void setEmployeeID(int employeeID) { this.employeeID = employeeID; }

public LocalDate getRecordDate() { return recordDate; }

public void setRecordDate(LocalDate recordDate) { this.recordDate = recordDate; }

public String getDescription() { return description; }

public void setDescription(String description) { this.description = description; }

public double getAmount() { return amount; }

public void setAmount(double amount) { this.amount = amount; }

public String getRecordType() { return recordType; }

public void setRecordType(String recordType) { this.recordType = recordType; }

}

**Payroll.java**

package payxpert;

import java.time.LocalDate;

public class Payroll {

private int payrollID;

private int employeeID;

private LocalDate payPeriodStartDate;

private LocalDate payPeriodEndDate;

private double basicSalary;

private double overtimePay;

private double deductions;

private double netSalary;

public Payroll() {}

public Payroll(int payrollID, int employeeID, LocalDate payPeriodStartDate, LocalDate payPeriodEndDate,

double basicSalary, double overtimePay, double deductions, double netSalary) {

this.payrollID = payrollID;

this.employeeID = employeeID;

this.payPeriodStartDate = payPeriodStartDate;

this.payPeriodEndDate = payPeriodEndDate;

this.basicSalary = basicSalary;

this.overtimePay = overtimePay;

this.deductions = deductions;

this.netSalary = netSalary;

}

public int getPayrollID() { return payrollID; }

public void setPayrollID(int payrollID) { this.payrollID = payrollID; }

public int getEmployeeID() { return employeeID; }

public void setEmployeeID(int employeeID) { this.employeeID = employeeID; }

public LocalDate getPayPeriodStartDate() { return payPeriodStartDate; }

public void setPayPeriodStartDate(LocalDate payPeriodStartDate) { this.payPeriodStartDate = payPeriodStartDate; }

public LocalDate getPayPeriodEndDate() { return payPeriodEndDate; }

public void setPayPeriodEndDate(LocalDate payPeriodEndDate) { this.payPeriodEndDate = payPeriodEndDate; }

public double getBasicSalary() { return basicSalary; }

public void setBasicSalary(double basicSalary) { this.basicSalary = basicSalary; }

public double getOvertimePay() { return overtimePay; }

public void setOvertimePay(double overtimePay) { this.overtimePay = overtimePay; }

public double getDeductions() { return deductions; }

public void setDeductions(double deductions) { this.deductions = deductions; }

public double getNetSalary() { return netSalary; }

public void setNetSalary(double netSalary) { this.netSalary = netSalary; }

}

**Tax.java**

package payxpert;

public class Tax {

private int taxID;

private int employeeID;

private int taxYear;

private double taxableIncome;

private double taxAmount;

public Tax() {}

public Tax(int taxID, int employeeID, int taxYear, double taxableIncome, double taxAmount) {

this.taxID = taxID;

this.employeeID = employeeID;

this.taxYear = taxYear;

this.taxableIncome = taxableIncome;

this.taxAmount = taxAmount;

}

public int getTaxID() { return taxID; }

public void setTaxID(int taxID) { this.taxID = taxID; }

public int getEmployeeID() { return employeeID; }

public void setEmployeeID(int employeeID) { this.employeeID = employeeID; }

public int getTaxYear() { return taxYear; }

public void setTaxYear(int taxYear) { this.taxYear = taxYear; }

public double getTaxableIncome() { return taxableIncome; }

public void setTaxableIncome(double taxableIncome) { this.taxableIncome = taxableIncome; }

public double getTaxAmount() { return taxAmount; }

public void setTaxAmount(double taxAmount) { this.taxAmount = taxAmount; }

}

**Package = payxpert2**

**EmployeeService.java**

package payxpert2;

import payxpert.Employee;

public class EmployeeService implements IEmployeeService {

private Employee employee;

public Employee getEmployeeById(int employeeId) {

if (employee != null && employee.getEmployeeID() == employeeId) return employee;

return null;

}

public Employee getAllEmployees() {

return employee; // Single record logic

}

public void addEmployee(Employee employeeData) {

this.employee = employeeData;

}

public void updateEmployee(Employee employeeData) {

if (employee != null && employee.getEmployeeID() == employeeData.getEmployeeID()) {

this.employee = employeeData;

}

}

public void removeEmployee(int employeeId) {

if (employee != null && employee.getEmployeeID() == employeeId) {

employee = null;

}

}

}

**FinancialRecordService.java**

package payxpert2;

import payxpert.FinancialRecord;

import java.time.LocalDate;

public class FinancialRecordService implements IFinancialRecordService {

private FinancialRecord record;

public void addFinancialRecord(int employeeId, String description, double amount, String recordType) {

record = new FinancialRecord(1, employeeId, LocalDate.*now*(), description, amount, recordType);

}

public FinancialRecord getFinancialRecordById(int recordId) {

if (record != null && record.getRecordID() == recordId) return record;

return null;

}

public FinancialRecord getFinancialRecordsForEmployee(int employeeId) {

if (record != null && record.getEmployeeID() == employeeId) return record;

return null;

}

public FinancialRecord getFinancialRecordsForDate(LocalDate recordDate) {

if (record != null && record.getRecordDate().equals(recordDate)) return record;

return null;

}

}

**IEmployeeService.java**

package payxpert2;

import payxpert.Employee;

public interface IEmployeeService {

Employee getEmployeeById(int employeeId);

Employee getAllEmployees();

void addEmployee(Employee employeeData);

void updateEmployee(Employee employeeData);

void removeEmployee(int employeeId);

}

**IFinancialRecordService.java**

package payxpert2;

import payxpert.FinancialRecord;

import java.time.LocalDate;

public interface IFinancialRecordService {

void addFinancialRecord(int employeeId, String description, double amount, String recordType);

FinancialRecord getFinancialRecordById(int recordId);

FinancialRecord getFinancialRecordsForEmployee(int employeeId);

FinancialRecord getFinancialRecordsForDate(LocalDate recordDate);

}

**IPayrollService.java**

package payxpert2;

import payxpert.Payroll;

import java.time.LocalDate;

public interface IPayrollService {

void generatePayroll(int employeeId, LocalDate startDate, LocalDate endDate);

Payroll getPayrollById(int payrollId);

Payroll getPayrollsForEmployee(int employeeId);

Payroll getPayrollsForPeriod(LocalDate startDate, LocalDate endDate);

}

**ITaxService.java**

package payxpert2;

import payxpert.Tax;

public interface ITaxService {

void calculateTax(int employeeId, int taxYear);

Tax getTaxById(int taxId);

Tax getTaxesForEmployee(int employeeId);

Tax getTaxesForYear(int taxYear);

}

**PayrollService.java**

package payxpert2;

import payxpert.Payroll;

import java.time.LocalDate;

public class PayrollService implements IPayrollService {

private Payroll payroll;

public void generatePayroll(int employeeId, LocalDate startDate, LocalDate endDate) {

payroll = new Payroll(1, employeeId, startDate, endDate, 50000, 5000, 2000, 53000);

}

public Payroll getPayrollById(int payrollId) {

if (payroll != null && payroll.getPayrollID() == payrollId) return payroll;

return null;

}

public Payroll getPayrollsForEmployee(int employeeId) {

if (payroll != null && payroll.getEmployeeID() == employeeId) return payroll;

return null;

}

public Payroll getPayrollsForPeriod(LocalDate startDate, LocalDate endDate) {

if (payroll != null &&

!payroll.getPayPeriodEndDate().isBefore(startDate) &&

!payroll.getPayPeriodStartDate().isAfter(endDate)) {

return payroll;

}

return null;

}

}

**TaxService.java**

package payxpert2;

import payxpert.Tax;

public class TaxService implements ITaxService {

private Tax tax;

public void calculateTax(int employeeId, int taxYear) {

double income = 60000; // example

double amount = income \* 0.10;

tax = new Tax(1, employeeId, taxYear, income, amount);

}

public Tax getTaxById(int taxId) {

if (tax != null && tax.getTaxID() == taxId) return tax;

return null;

}

public Tax getTaxesForEmployee(int employeeId) {

if (tax != null && tax.getEmployeeID() == employeeId) return tax;

return null;

}

public Tax getTaxesForYear(int taxYear) {

if (tax != null && tax.getTaxYear() == taxYear) return tax;

return null;

}

}

**Package=util**

**ReportGenerator.java**

package util;

import payxpert.\*;

public class ReportGenerator {

public static void printEmployee(Employee e) {

if (e != null) {

System.***out***.println("Employee: " + e.getEmployeeID() + " - " + e.getFirstName() + " " + e.getLastName());

}

}

public static void printPayroll(Payroll p) {

if (p != null) {

System.***out***.println("Payroll: ID=" + p.getPayrollID() + " | Net Salary=" + p.getNetSalary());

}

}

public static void printTax(Tax t) {

if (t != null) {

System.***out***.println("Tax: ID=" + t.getTaxID() + " | Amount=" + t.getTaxAmount());

}

}

public static void printFinancialRecord(FinancialRecord r) {

if (r != null) {

System.***out***.println("Record: ID=" + r.getRecordID() + " | Type=" + r.getRecordType() + " | Amount=" + r.getAmount());

}

}

}

**ValidationService.java**

package util;

public class ValidationService {

public static boolean isValidEmail(String email) {

return email != null && email.contains("@") && email.contains(".");

}

public static boolean isValidPhoneNumber(String phone) {

return phone != null && phone.matches("\\d{10}");

}

public static boolean isNonEmpty(String value) {

return value != null && !value.trim().isEmpty();

}

}

db

package sample;

import java.math.BigDecimal;

import java.sql.\*;

public class jdbc {

public static void main (String [] args) throws ClassNotFoundException, SQLException

{

// **TODO** Auto-generated method stub

Class.*forName*("com.mysql.cj.jdbc.Driver");

try (Connection conn = DriverManager.*getConnection*(

"jdbc:mysql://localhost:3306/payxpert", "root", "Sus2716@");

Statement stmt = conn.createStatement())

{

String insertQuery = "INSERT INTO tax (EmployeeID, TaxYear, TaxableIncome, TaxAmount) VALUES (?, ?, ?, ?)";

try (PreparedStatement pstmt = conn.prepareStatement(insertQuery)) {

pstmt.setInt(1, 2716);

pstmt.setInt(2, 2025);

pstmt.setBigDecimal(3, BigDecimal.*valueOf*(567.00));

pstmt.setBigDecimal(4, BigDecimal.*valueOf*(567.00));

pstmt.executeUpdate();

System.***out***.println("User inserted.");

}

String deleteQuery = "DELETE FROM Tax WHERE EmployeeID = ?";

try (PreparedStatement pstmt = conn.prepareStatement(deleteQuery)) {

pstmt.setInt(1, 5);

pstmt.executeUpdate();

System.***out***.println("User deleted.");

}

// SELECT

ResultSet rs = stmt.executeQuery("SELECT \* FROM tax");

while (rs.next()) {

System.***out***.println(rs.getInt("TaxID") + " | " +

rs.getInt("EmployeeID") + " | " +

rs.getInt("TaxYear") + " | " +

rs.getBigDecimal("TaxableIncome") + " | " +

rs.getBigDecimal("TaxAmount"));

}

}

}

}