**OODP** workshop 10

Student Class

1. Think about a class named Employee in payroll system of an organisation.

Ans: We will think of a payroll system which have an Employee class with Attribute member variables and Behaviour Methods. We will put this code in Employee.java file.

2. What are the different attributes that an Employee class can have? Ans: **Attributes of the Employee class:**

1. name: String
2. employeeId: int
3. dateOfBirth: LocalDate
4. address: String
5. phoneNumber: String
6. email: String
7. department: String
8. designation: String
9. dateOfJoining: LocalDate
10. salary: double
11. paymentMethod: PaymentMethod

1) bankDetails: BankDetails

1. leaveBalance: int
2. employeeType: EmployeeType
3. taxRate: double

3. What are the methods that an Employee class can have? Ans:

**Methods of the Employee class:**

1. Constructors: Default, parameterized with essential attributes, parameterized with most attributes.
2. Getters and Setters for each attribute.
3. calculateSalary()
4. applyLeave(int daysToApply)
5. updatePersonallnfo(String address, String phoneNumber, String email)
6. changeDepartment(String newDepartment)
7. promoteEmployee(String newDesignation, double newSalary)
8. terminateEmployee(LocalDate terminationDate)
9. generatePayslip()
10. calculateTaxDeduction()
11. updateBankDetails(BankDetails newBankDetails)

1) requestLeave(int daysToRequest)

1. printEmployeeDetails()
2. calculateNetPay()
3. How many constructors this class can have?

• Ans: There are three constructors: default, parameterized with essential attributes, parameterized with most attributes.

1. How many getters and setters this class can have?

Ans: Each attribute has a getter and a setter. With 15 attributes, there will be 15 getters and 15 setters, making a total of 30 getter and setter methods.

1. What a toString() method will display in this class? Ans:

@Override

public String toString() {

return "Employee {" +

"name="' + name + '\" +

", employeeId=" + employeeId + ", dateOfBirth=" + dateOfBirth + ", address="' + address + 'V' +

", phoneNumber="' + phoneNumber + '\" +

", email="' + email + '\" +

", department="' + department + '\" + ", designation="' + designation + '\" + ", dateOfJoining=" + dateOfJoining + ", salary=" + salary +

", paymentMethod=" + paymentMethod +

", bankDetails=" + bankDetails +

", leaveBalance=" + leaveBalance +

", employeeType=" + employeeType + ", taxRate=" + taxRate +

}

Open Eclipse, and develop this class on the basis of information you have written in answers above.

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| **- 1** | **Sr{** | **4**  **5** | **public class Employee I** |
|  |
|  | **EmployeePa)** | **6** | **private String name;** |  |
|  | **BankDetai** | **7** | **private int employeeld;** |  |
|  | **CasualErn** | **8** | **private** LocalDate **date0f6irth;** |  |
|  | **0 Employee** | **9** | **private String** address; |  |
|  |  | **10** | **private** String phoneNumber; |  |
|  | ***> fff* Employee** | **11** | **private** String **email;** |  |
|  | **FulltirneEr** | **12** | **private String** department; | **Connect Mylyn** |
|  | **iB Payment'',** | **13** | **private** String designation; | Connect to your **task and** |
|  | **TestPayrol** | **14** | **private** LocalDate dateOfJoining; | **ALM tools or** credte **a local** |
|  | ld **module-info.** | **15**  **16** | **private** double salary;  **private PaymentMethed paymentMethod;** | *task.* |
|  |  | **17** | **private BankDetails** bankDetails; | & Outline x |
|  |  | **18** | **private int** leaveBalance; | P 11+t ill • |
|  |  | **19**  ze  21 | **private EmplayeeType amployeeType; private double** taxRate; | **EmoloyeePayrollPack G Employee** |
|  |  | 22 | *fJ* **Default** constructor | **name : String** |
|  |  | 23- | **public Employee() {** | **employeeld : int** |
|  |  | 24 |  | **dateOfBirth Local** |
|  |  | **25** |  | **address : String** |
|  |  | **26** | **// Parameterized constructor with essential attributes** |  |
|  |  | 27 - | **public Employee(String name, int employeeld, String department, String designati** | **phoneNumber ; St** |
|  |  | 28 | **this.name = name;** | **email. String** |
|  |  | **29** | **this.employeeld = employeeld;** | **department Shin;** |
|  |  | **30** | **this.department . department;** | **designation :** Strirw |
|  |  | **31** | **this.designation designation;**  **this ealary = qplapv-** | **date0f.10ining 10** |

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**// Parameterized constructor with most attributes**

**public Employee(String name, int employeeld, LocalDate dateOfBirth, String addre this.name =** name;

**this.employeeld = employeeld; this.dateOfBirth = dateOfBirth; this.address = address;**

**this.phoneNumber . phoneNumber; this.email .** email;

**this. department a department; this.designation = designation; this.date0f]oining =** datedfloinine; **this,salary =** salary;

**this, DaymentMetbod r** paymentMethodi **this.bankDetails = bankDetails; this.leave8alance leaveBalance;
  
this.employeeType = employeeType; this.taxRate = taxRate;**

/1 Getters and Setters

public **String getName() { return name;**

**public void setName(String name) { this.name . name;**

**public int getEmployeeId() { return employeeld; I**

**public void setEmployeeld(int employeeld) { this.employeeld = employeeld;**

**public LocalDate getdateGfpirth() { return date0f8irth; }**

**public void set0ate0fEirth(LocalDate** dateOfBirth) **{ this.date0fEirth = dateOfBir**

**public String getAddress() { return** address; }

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67 **public String getPhoneNumber() { return phoneNumber; )**

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

**69**

**70 public String getEmail() { return email;**

**71 public void setEmail(String email) { this.email . email;**

**72**

**73 public String getDepartment() { return department; }**

**74 public void setDepartment(String department) { this.depertment • department; }**

**75**

**76 public String getdesignation() { return designation; 1**

**77 public void setDesignation(String designation) { this.designation = designation;**

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**79 public Local❑ate getdate0f3oining() { return date0floining;**

se **public void setDateOfJoining(LocalDate dateOfJoining) { this.date0f3oining . Cat**

**81**

**82 public double getSalary0 { return salary; )**

**83 public void setSalary(double salary) { this.salary = salary;**

**84**

**85 public -PaymentMethod getPaymentMethod() f return paymentNethod;**

**86 public void setPaymentMethod(PaymentMethod paymentMethod) { this\_paymentMethod**

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88 **public 8anktietaiis getaankpetaiIs() { return bankpeteils; 1**

**89 public void set8ankDetails(BankDetails hankDetails) ( thisbankDetails = bankDet**

9e

**91 public Ant getLeave8alance() { return leave8alance; )**

**92 public void setLeaveSalencefint { this.leaveBalance = leaueBalance**

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**94 public Employeetype getEmployeeType() { return employeeType; }**

**95 public void setEmployeeType(EmployeeType employeeType) { this.employeeType = ern**

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97 **public double getTaxRate() { return taxRate; }**

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**98 public void setTexRete(double taxRate) f this.taxRate = taxRate; }**

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**public double calculateSalary() f**

**/1 Logic to calculate salary based on base salary, allowances, deductions,** e

**return salary;**

**public void applyLeave(int daysToApply) { leave6alance -= daysToApply;**

**public void updatePersonallnfo(String address, String phoneNumber, String email) this.address . address;**

**this.phoneNumber = phoneNumber;**

**this.email = email;**

**public void changeDepartment(String newDepartment) this.ciepartment = newDepartment;**

**public void promoteEmployee(String newDesignation, double newSalary) this.designation = newdesignatior;**

**this.salary newSalary;**

**public void terminateEmployee(LocalDate terminationDate) {
  
*/1* Logic to terminate the employee and update status**

**public void generatePayslip() (**

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**Full-Time Employee Details:**

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**FulltimeEmployee Class**

**Consider FulltimeEmployee class as a sub class of Employee**

**1. What is the additional attribute that a FulltimeEmplloyee class can have? Ans: benefits: String**

**2. Discuss the different types of constructor that this class can have and how will you use "Super" keyword?**

**Ans: Constructors and usage of super:**

1. **Default constructor.**
2. **Constructor with essential attributes.**
3. **Constructor with all attributes including the additional one.**

**3. Write getter and setter for additional attributes and override the toString() method of Employee class which will display the all details of that particular FulltimeEmployee.**

**Ans: If Getter and Setter for bonus**

**public double getBonus()**

**return bonus;**

}

**public void setBonus(double bonus) { this.bonus = bonus;**