



Aror University of Art, Architecture, Design &

Heritage Sukkur

Department of AI-Multimedia and Gaming

BS-AI and MMG, Fall 2024 Batch

Lab 05: Class , objects and Methods

Course: Object Oriented Programming

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Task 1: Library Book Management

Class Implementation:

1. Create a class named Book.
2. Define the following instance variables:
 - o title (stores the book title)
 - o author (stores the book author)
 - o isAvailable (Boolean value indicating whether the book is available for borrowing)
3. Implement the following methods:
 - o borrowBook(): Marks the book as unavailable if it is currently available, otherwise displays a message that the book is already borrowed.
 - o returnBook(): Marks the book as available.
 - o displayBookDetails(): Displays the book title, author, and availability status.

Main Method Implementation:

1. Create an object b1 of the Book class with a title and author.
2. Check the availability of the book.
3. Borrow the book and display its status.
4. Attempt to borrow the book again.
5. Return the book and check availability.

Task 2: Employee Payroll System

Class Implementation:

1. Create a class named Employee.
2. Define the following instance variables:
 - o name (stores the employee's name)
 - o empID (stores the employee's ID)
 - o salary (stores the employee's monthly salary)
3. Implement the following methods:

- `increaseSalary(amount)`: Increases the employee's salary by the given amount.
- `calculateAnnualSalary()`: Returns the annual salary of the employee.
- `displayDetails()`: Displays the employee's name, ID, and salary.

Main Method Implementation:

1. Create an object `e1` of the `Employee` class.
2. Initialize the object with an employee's name, ID, and salary.
3. Increase the salary by \$2000.
4. Display the employee details.
5. Calculate and print the annual salary.