

Class Admin :

```
1 package model;
2
3 public class Admin extends User {
4     private String username;
5     private String email;
6
7     public Admin(String idAdmin, String namaAdmin, String username, String password, String email, String noTelp) {
8         super(idAdmin, namaAdmin, noTelp, password);
9         this.username = username;
10        this.email = email;
11    }
12
13    public String getUsername() {
14        return username;
15    }
16
17    public String getEmail() {
18        return email;
19    }
20
21    public void setUsername(String username) {
22        this.username = username;
23    }
24
25    public void setEmail(String email) {
26        this.email = email;
27    }
28
29    @Override
30    public void displayInfo() {
31        super.displayInfo();
32    }
33
34    @Override
35    public void displayInfo(boolean detail) {
36        super.displayInfo(detail); // panggil dari User
37
38        if (detail) {
39            System.out.println("Username: " + username);
40            System.out.println("Email: " + email);
41        }
42    }
43
44    @Override
45    public String getRole() {
46        return "Admin";
47    }
48 }
49
```

Class Buku Service

```
1 package service;
2 import model.Buku;
3 import java.util.ArrayList;
4
5 public class BukuService {
6     private static ArrayList<Buku> listBuku = new ArrayList<Buku>();
7
8     public void tambahBuku(Buku buku) {
9         listBuku.add(buku);
10    }
11
12    public void tampilkanBuku() {
13        if(daftarBuku().isEmpty()) {
14            System.out.println("Tidak ada buku yang tersedia");
15        } else {
16            for(Buku buku : daftarBuku()) {
17                buku.tampilkanBuku();
18            }
19        }
20    }
21
22    public Buku cariBuku(String idBuku) {
23        for (Buku buku : listBuku) {
24            if (buku.getIdBuku().equals(idBuku)) {
25                return buku;
26            }
27        }
28        return null;
29    }
30
31    public void updateBuku(String idBuku, double hargaBuku, int stok) {
32        Buku buku = cariBuku(idBuku);
33        if (buku != null) {
34            buku.setHarga(hargaBuku);
35            buku.setStok(stok);
36            System.out.println("Buku berhasil diupdate!");
37        } else {
38            System.out.println("Buku tidak ditemukan.");
39        }
40    }
41
42    public boolean hapusBuku(String idBuku) {
43        Buku buku = cariBuku(idBuku);
44        if (buku != null) {
45            listBuku.remove(buku);
46            System.out.println("Buku berhasil dihapus!");
47            return true;
48        } else {
49            System.out.println("Buku tidak ditemukan.");
50            return false;
51        }
52    }
53
54    public boolean beliBuku(String idBuku, int jumlah) {
55        Buku buku = cariBuku(idBuku);
56        if (buku != null && buku.getStok() >= jumlah) {
57            buku.setStok(buku.getStok() - jumlah);
58            System.out.println("👍 Pembelian berhasil!");
59            return true;
60        } else {
61            System.out.println("Pembelian gagal, stok tidak mencukupi atau buku tidak ditemukan.");
62            return false;
63        }
64    }
65
66    public ArrayList<Buku> daftarBuku() {
67        return listBuku;
68    }
69 }
70
71 }
```

Class Buku

```
1  package model;
2
3  public class Buku {
4      private String idBuku;
5      protected String judulBuku;
6      String genre;
7      private int stok;
8      private double hargaBuku;
9
10     // Constructor
11     public Buku(String idBuku, String judulBuku, String genre, int stok, double hargaBuku2) {
12         this.idBuku = idBuku;
13         this.judulBuku = judulBuku;
14         this.genre = genre;
15         this.stok = stok;
16         this.hargaBuku = hargaBuku2;
17     }
18
19     // Getter
20     public String getIdBuku() {
21         return idBuku;
22     }
23     public String getJudulBuku() {
24         return judulBuku;
25     }
26     public String getGenre() {
27         return genre;
28     }
29     public int getStok() {
30         return stok;
31     }
32     public double getHargaBuku() {
33         return hargaBuku;
34     }
35
36     // Setter
37     public void setHarga(double hargaBuku)
38     {
39         this.hargaBuku = hargaBuku;
40     }
41     public void setStok(int stok)
42     {
43         this.stok = stok;
44     }
45
46     // Method
47     public void menampilkanBuku() {
48         System.out.println("ID Buku: " + idBuku);
49         System.out.println("Judul Buku: " + judulBuku);
50         System.out.println("Genre: " + genre);
51         System.out.println("Stok: " + stok);
52         System.out.println("Harga Buku: Rp " + hargaBuku);
53         System.out.println("-----");
54     }
55 }
```

Class Main

```
1 import service.BukuService;
2 import java.util.Scanner;
3 import model.Buku;
4 import model.Buku;
5 import model.Pelanggan;
6 import model.User;
7 import java.util.ArrayList;
8
9 public class Main {
10     private static BukuService bukuService = new BukuService();
11     private static Scanner scanner = new Scanner(System.in);
12     private static ArrayList<User> users = new ArrayList<>();
13
14     public static void main(String[] args) {
15         // Memasukkan buku ke dalam daftar
16         bukuService.tambahBuku(new Buku("QA1", "Harry Potter", "Magill", 10, 10000));
17         bukuService.tambahBuku(new Buku("QA2", "Percy Jackson", "Acton", 5, 7000));
18         bukuService.tambahBuku(new Buku("QA3", "Sherlock Holmes", "Psychology", 7, 8000));
19         bukuService.tambahBuku(new Buku("QA4", "The Hunger Games", "Twilite", 3, 5000));
20         bukuService.tambahBuku(new Buku("QA5", "The Lord of The Rings", "Fantasy", 3, 10000));
21
22         // Memasukkan data pengguna (Admin dan Pelanggan)
23         users.add(new Pelanggan("1", "Admin", "Jl. Merdeka No. 1", "98123456789", "admin123"));
24         users.add(new Pelanggan("2", "Admin", "Jl. Merdeka No. 2", "98123456789", "admin123"));
25         users.add(new Admin("A1", "Admin1", "admin1", "admin123", "admin@gmail.com", "98123456789"));
26
27         login();
28
29     }
30
31     public static void login() {
32         while (true) {
33             System.out.println("=====");
34             System.out.println("    LOGIN    ");
35             System.out.println("=====");
36
37             System.out.println("Masukkan username: ");
38             String username = scanner.nextLine();
39             System.out.println("Masukkan password: ");
40             String password = scanner.nextLine();
41
42             for (User user : users) {
43                 if (user instanceof Admin && (Admin) user.getUsername().equals(username) && user.getPassword().equals(password)) {
44                     System.out.println("Login berhasil sebagai ADMIN!");
45
46                     // Tampilkan info user
47                     user.displayInfo();
48                     System.out.println("Display Info (langkah menggunakan Overload: ");
49                     user.displayInfo(true);
50                     System.out.println("Role: " + user.getRole());
51                     menuAdmin();
52                     return;
53                 }
54             }
55             if (user instanceof Pelanggan && (Pelanggan) user.getUsername().equals(username) && user.getPassword().equals(password)) {
56                 System.out.println("Login berhasil sebagai PELANGGAN!");
57
58                 // Tampilkan info user
59                 user.displayInfo();
60                 System.out.println("Display Info (langkah menggunakan Overload: ");
61                 user.displayInfo(true);
62                 System.out.println("Role: " + user.getRole());
63                 menuPelanggan();
64                 return;
65             }
66             System.out.println("Username atau password salah! Coba lagi.");
67         }
68     }
69
70     public static void menuAdmin() {
71         while (true) {
72             System.out.println("=====");
73             System.out.println("    MENU ADMIN    ");
74             System.out.println("=====");
75             System.out.println("1. Tambah Buku");
76             System.out.println("2. Hapus Buku");
77             System.out.println("3. Lihat Daftar Buku");
78             System.out.println("4. Logout");
79             System.out.println("Pilih menu: ");
80             int pilihan = scanner.nextInt();
81             scanner.nextLine();
82
83             switch (pilihan) {
84                 case 1:
85                     tambahBuku();
86                     break;
87                 case 2:
88                     hapusBuku();
89                     break;
90                 case 3:
91                     System.out.println("=====");
92                     System.out.println("    DAFTAR BUKU    ");
93                     System.out.println("=====");
94                     bukuService.tampilkanBuku();
95                     break;
96                 case 4:
97                     System.out.println("Logout berhasil!");
98                     return;
99                 default:
100                     System.out.println("Pilihan tidak valid!");
101             }
102         }
103     }
104
105     public static void menuPelanggan() {
106         while (true) {
107             System.out.println("=====");
108             System.out.println("    MENU PELANGGAN    ");
109             System.out.println("=====");
110             System.out.println("1. Lihat Buku");
111             System.out.println("2. Beli Buku");
112             System.out.println("3. Logout");
113             System.out.println("Pilih menu: ");
114             int pilihan = scanner.nextInt();
115             scanner.nextLine();
116
117             switch (pilihan) {
118                 case 1:
119                     System.out.println("=====");
120                     System.out.println("    DAFTAR BUKU    ");
121                     System.out.println("=====");
122                     bukuService.tampilkanBuku();
123                     break;
124                 case 2:
125                     beliBuku();
126                     break;
127                 case 3:
128                     System.out.println("Logout berhasil!");
129                     return;
130                 default:
131                     System.out.println("Pilihan tidak valid!");
132             }
133         }
134     }
135
136     public static void tambahBuku() {
137         System.out.println("=====");
138         System.out.println("    TAMBAH BUKU    ");
139         System.out.println("=====");
140         System.out.println("Masukkan Kode Buku: ");
141         String kode = scanner.nextLine();
142         System.out.println("Masukkan Nama Buku: ");
143         String nama = scanner.nextLine();
144         System.out.println("Masukkan Genre Buku: ");
145         String genre = scanner.nextLine();
146         System.out.println("Masukkan Stok Buku: ");
147         int stok = scanner.nextInt();
148         System.out.println("Masukkan Harga Buku: ");
149         int harga = scanner.nextInt();
150         scanner.nextLine();
151
152         Buku bukuBaru = new Buku(kode, nama, genre, stok, harga);
153         bukuService.tambahBuku(bukuBaru);
154         System.out.println("Buku berhasil ditambahkan!");
155     }
156
157     public static void hapusBuku() {
158         System.out.println("=====");
159         System.out.println("    HAPUS BUKU    ");
160         System.out.println("=====");
161         bukuService.tampilkanBuku();
162         System.out.println("Masukkan Kode Buku yang ingin dihapus: ");
163         String kode = scanner.nextLine();
164         if (bukuService.hapusBuku(kode)) {
165             System.out.println("Buku berhasil dihapus!");
166         } else {
167             System.out.println("Buku tidak ditemukan!");
168         }
169     }
170
171     public static void beliBuku() {
172         System.out.println("=====");
173         System.out.println("    BELI BUKU    ");
174         System.out.println("=====");
175         bukuService.tampilkanBuku();
176         System.out.println("Masukkan Kode Buku yang ingin dibeli: ");
177         String kode = scanner.nextLine();
178         System.out.println("Masukkan Jumlah Buku yang ingin dibeli: ");
179         int jumlah = scanner.nextInt();
180         scanner.nextLine();
181
182         if (bukuService.beliBuku(kode, jumlah)) {
183             System.out.println("Pembelian berhasil!");
184         } else {
185             System.out.println("Pembelian gagal, cek stok atau kode buku!");
186         }
187     }
188 }
```

Overload bagian user

```
1 // Overload
2 public void displayInfo(boolean detail) {
3     if (detail) {
4         System.out.println("ID: " + id);
5         System.out.println("Nama: " + nama);
6         System.out.println("role: " + role);
7         System.out.println("No HP: " + noTelp);
8     } else {
9         displayInfo(); // panggil yang versi singkat
10    }
11 }
```

Override bagian pelanggan

```
1 @Override
2 public void displayInfo() {
3     super.displayInfo();
4 }
5
6 @Override
7 public void displayInfo(boolean detail) {
8     super.displayInfo(detail); // panggil dari User
9
10    if (detail) {
11        System.out.println("Alamat: " + alamat);
12    }
13 }
14
15 @Override
16 public String getRole() {
17     return "Pelanggan";
18 }
```

Override dibagian admin

```
@Override
public void displayInfo() {
    super.displayInfo();
}

@Override
public void displayInfo(boolean detail) {
    super.displayInfo(detail); // panggil dari User

    if (detail) {
        System.out.println("Username: " + username);
        System.out.println("Email: " + email);
    }
}

@Override
public String getRole() {
    return "Admin";
}
```

Class Pelanggan

```
1 package model;
2
3 public class Pelanggan extends User {
4     private String alamat;
5
6     public Pelanggan(String idPelanggan, String namaPelanggan, String alamat, String noTelp, String password) {
7         super(idPelanggan, namaPelanggan, noTelp, password);
8         this.alamat = alamat;
9     }
10
11     public String getIdPelanggan() {
12         return id;
13     }
14
15     public String getNamaPelanggan() {
16         return nama;
17     }
18
19     public String getNoTelpPelanggan() {
20         return noTelp;
21     }
22
23     public String getPasswordPelanggan() {
24         return password;
25     }
26
27     public String getAlamat() {
28         return alamat;
29     }
30
31     @Override
32     public void displayInfo() {
33         super.displayInfo();
34     }
35
36     @Override
37     public void displayInfo(boolean detail) {
38         super.displayInfo(detail); // panggil dari User
39
40         if (detail) {
41             System.out.println("Alamat: " + alamat);
42         }
43     }
44
45     @Override
46     public String getRole() {
47         return "Pelanggan";
48     }
49 }
50
```

Class User

```
1  package model;
2
3  public class User {
4      protected String id;
5      protected String nama;
6      protected String noTelp;
7      protected String password;
8      protected String role;
9
10     public User(String id, String nama, String noTelp, String password) {
11         this.id = id;
12         this.nama = nama;
13         this.noTelp = noTelp;
14         this.password = password;
15     }
16
17     public String getId() {
18         return id;
19     }
20
21     public String getNama() {
22         return nama;
23     }
24
25     public String getNoTelp() {
26         return noTelp;
27     }
28
29     public String getPassword() {
30         return password;
31     }
32
33     public void setPassword(String password) {
34         this.password = password;
35     }
36
37     public String getRole() {
38         return "User";
39     }
40
41     public void displayInfo() {
42         System.out.println("ID: " + id);
43         System.out.println("Nama: " + nama);
44     }
45
46     // Overload
47     public void displayInfo(boolean detail) {
48         if (detail) {
49             System.out.println("ID: " + id);
50             System.out.println("Nama: " + nama);
51             System.out.println("role: " + role);
52             System.out.println("No HP: " + noTelp);
53         } else {
54             displayInfo(); // panggil yang versi singkat
55         }
56     }
57
58     public void setPassword(String password, String confirmPassword) {
59         if (password.equals(confirmPassword)) {
60             this.password = password;
61         } else {
62             System.out.println("Password dan konfirmasi tidak cocok!");
63         }
64     }
65 }
66
```