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Main.java

```java
import java.util.ArrayList;
import java.util.InputMismatchException;
import java.util.Scanner;
import myClass.Barang;
import myClass.Supplier;

import myManajemen.tambahSupplier;
import myManajemen.lihatSupplier;
import myManajemen.tambahBarang;
import myManajemen.lihatBarang;
import myManajemen.ubahBarang;
import myManajemen.hapusBarang;

class App {
    private static final ArrayList<Barang> daftarBarang = new ArrayList<>();
    private static final ArrayList<Supplier> daftarSupplier = new ArrayList<>();
    private static final Scanner scanner = new Scanner(System.in);
    private static final int idCounter = 1;
    private static final int supplierIdCounter = 1;

    private static final tambahSupplier supplierManager = new tambahSupplier(daftarSupplier, scanner, supplierIdCounter);
    private static final lihatSupplier supplierViewer = new lihatSupplier(daftarSupplier);
    private static final tambahBarang barangManager = new tambahBarang(daftarBarang, scanner, idCounter);
    private static final lihatBarang barangViewer = new lihatBarang(daftarBarang);
    private static final ubahBarang barangUpdater = new ubahBarang(daftarBarang, scanner);
    private static final hapusBarang barangDeleter = new hapusBarang(daftarBarang, scanner);

    public static final void main(String[] args) {
        while (true) {
            try {
                System.out.println("\n=== Sistem Penjualan & Stok Toko Stationery ===");
                System.out.println("1. Tambah Barang");
                System.out.println("2. Lihat Barang");
                System.out.println("3. Ubah Barang");
                System.out.println("4. Hapus Barang");
                System.out.println("5. Tambah Supplier");
                System.out.println("6. Lihat Supplier");
                System.out.println("7. Keluar");
                System.out.print("Pilih menu: ");
                int pilihan = scanner.nextInt();
                scanner.nextLine();

                switch (pilihan) {
                    case 1 -> barangManager.tambahBarang();
                    case 2 -> barangViewer.lihatBarang();
                    case 3 -> barangUpdater.ubahBarang();
                    case 4 -> barangDeleter.hapusBarang();
                    case 5 -> supplierManager.tambahSupplier();
                    case 6 -> supplierViewer.lihatSupplier();
                    case 7 -> {
                        System.out.println("Program selesai. Terima kasih!");
                        return;
                    }
                    default -> System.out.println("Pilihan tidak valid. Silakan coba lagi.");
                }
            } catch (InputMismatchException e) {
                System.out.println("Input tidak valid. Harap masukkan angka sesuai menu.");
                scanner.nextLine();
            } catch (Exception e) {
                System.out.println("Terjadi kesalahan: " + e.getMessage());
            }
        }
    }
}
```

ubahBarang.java

```java
package myManajemen;

import java.util.ArrayList;
import java.util.InputMismatchException;
import java.util.Scanner;
import myClass.Barang;
import myClass.BrushPen;
import myClass.Pulpen;

public class ubahBarang {
    private final ArrayList<Barang> daftarBarang;
    private final Scanner scanner;

    public ubahBarang(ArrayList<Barang> daftarBarang, Scanner scanner) {
        this.daftarBarang = daftarBarang;
        this.scanner = scanner;
    }

    public void ubahBarang() {
        try {
            System.out.print("Masukkan ID barang yang ingin diubah: ");
            int id = scanner.nextInt();
            scanner.nextLine();

            for (Barang barang : daftarBarang) {
                if (barang.getId() == id) {
                    System.out.print("Masukkan nama baru: ");
                    String nama = scanner.nextLine();
                    if (nama.isEmpty()) {
                        throw new IllegalArgumentException("Nama barang tidak boleh kosong.");
                    }
                    barang.setNama(nama);

                    System.out.print("Masukkan stok baru: ");
                    int stok = scanner.nextInt();
                    if (stok < 0) {
                        throw new IllegalArgumentException("Stok barang tidak boleh negatif.");
                    }
                    barang.setStok(stok);

                    System.out.print("Masukkan harga baru: ");
                    double harga = scanner.nextDouble();
                    if (harga < 0) {
                        throw new IllegalArgumentException("Harga barang tidak boleh negatif.");
                    }
                    barang.setHarga(harga);
                    scanner.nextLine();

                    if (barang instanceof BrushPen) {
                        System.out.print("Masukkan jenis brushpen blend baru (true or false): ");
                        boolean blend = Boolean.parseBoolean(scanner.nextLine());
                        ((BrushPen) barang).setBlend(blend);
                    } else if (barang instanceof Pulpen) {
                        System.out.print("Masukkan jenis pulpen refillable baru (true or false): ");
                        boolean refillable = Boolean.parseBoolean(scanner.nextLine());
                        ((Pulpen) barang).setRefillable(refillable);
                    }

                    System.out.println("Barang berhasil diperbarui!");
                    return;
                }
            }
            System.out.println("Barang dengan ID tersebut tidak ditemukan.");
        } catch (InputMismatchException e) {
            System.out.println("Input tidak valid. Harap masukkan data dengan format yang benar.");
            scanner.nextLine(); // Clear invalid input
        } catch (IllegalArgumentException e) {
            System.out.println("Error: " + e.getMessage());
        } catch (Exception e) {
            System.out.println("Terjadi kesalahan: " + e.getMessage());
        }
    }
}
```

tambahSupplier.java

```java
package myManajemen;

import java.util.ArrayList;
import java.util.Scanner;
import myClass.Supplier;

public class tambahSupplier {
    private final ArrayList<Supplier> daftarSupplier;
    private final Scanner scanner;
    private int supplierIdCounter;

    public tambahSupplier(ArrayList<Supplier> daftarSupplier, Scanner scanner, int supplierIdCounter) {
        this.daftarSupplier = daftarSupplier;
        this.scanner = scanner;
        this.supplierIdCounter = supplierIdCounter;
    }

    public void tambahSupplier() {
        try {
            System.out.print("Masukkan nama supplier: ");
            String nama = scanner.nextLine();
            if (nama.isEmpty()) {
                throw new IllegalArgumentException("Nama supplier tidak boleh kosong.");
            }

            System.out.print("Masukkan alamat supplier: ");
            String alamat = scanner.nextLine();
            if (alamat.isEmpty()) {
                throw new IllegalArgumentException("Alamat supplier tidak boleh kosong.");
            }

            System.out.print("Masukkan telepon supplier: ");
            String telepon = scanner.nextLine();
            if (telepon.isEmpty()) {
                throw new IllegalArgumentException("Telepon supplier tidak boleh kosong.");
            }
            if (!telepon.matches("\\d+")) {
                throw new IllegalArgumentException("Telepon supplier harus berupa angka.");
            }

            Supplier supplier = new Supplier(supplierIdCounter++, nama, alamat, telepon);
            daftarSupplier.add(supplier);
            System.out.println("Supplier berhasil ditambahkan!");
        } catch (IllegalArgumentException e) {
            System.out.println("Error: " + e.getMessage());
        } catch (Exception e) {
            System.out.println("Terjadi kesalahan: " + e.getMessage());
        }
    }
}
```

tambahBarang.java

```java
package myManajemen;

import java.util.ArrayList;
import java.util.InputMismatchException;
import java.util.Scanner;
import myClass.Barang;
import myClass.BrushPen;
import myClass.Pulpen;
import myClass.BarangUmum;

public class tambahBarang {
    private final ArrayList<Barang> daftarBarang;
    private final Scanner scanner;
    private int idCounter;

    public tambahBarang(ArrayList<Barang> daftarBarang, Scanner scanner, int idCounter) {
        this.daftarBarang = daftarBarang;
        this.scanner = scanner;
        this.idCounter = idCounter;
    }

    public void tambahBarang() {
        try {
            System.out.println("Pilih jenis barang:");
            System.out.println("1. Barang Umum");
            System.out.println("2. Brush Pen");
            System.out.println("3. Pulpen");
            System.out.print("Pilihan: ");
            int jenis = scanner.nextInt();
            scanner.nextLine();

            if (jenis < 1 || jenis > 3) {
                throw new IllegalArgumentException("Pilihan jenis barang tidak valid.");
            }

            System.out.print("Masukkan nama barang: ");
            String nama = scanner.nextLine();
            if (nama.isEmpty()) {
                throw new IllegalArgumentException("Nama barang tidak boleh kosong.");
            }

            System.out.print("Masukkan stok barang: ");
            int stok = scanner.nextInt();
            if (stok < 0) {
                throw new IllegalArgumentException("Stok barang tidak boleh negatif.");
            }

            System.out.print("Masukkan harga barang: ");
            double harga = scanner.nextDouble();
            if (harga < 0) {
                throw new IllegalArgumentException("Harga barang tidak boleh negatif.");
            }
            scanner.nextLine();

            Barang barang;
            switch (jenis) {
                case 2 -> {
                    System.out.print("Masukkan jenis brushpen blend (true or false): ");
                    boolean blend = Boolean.parseBoolean(scanner.nextLine());
                    barang = new BrushPen(idCounter++, nama, stok, harga, blend);
                }
                case 3 -> {
                    System.out.print("Masukkan jenis pulpen refillable (true or false): ");
                    boolean refillable = Boolean.parseBoolean(scanner.nextLine());
                    barang = new Pulpen(idCounter++, nama, stok, harga, refillable);
                }
                default -> barang = new BarangUmum(idCounter++, nama, stok, harga);
            }

            daftarBarang.add(barang);
            System.out.println("Barang berhasil ditambahkan!");
        } catch (InputMismatchException e) {
            System.out.println("Input tidak valid. Harap masukkan data dengan format yang benar.");
            scanner.nextLine();
        } catch (IllegalArgumentException e) {
            System.out.println("Error: " + e.getMessage());
        } catch (Exception e) {
            System.out.println("Terjadi kesalahan: " + e.getMessage());
        }
    }
}
```

lihatSupplier.java

```java
package myManajemen;

import java.util.ArrayList;
import myClass.Supplier;

public class lihatSupplier {
    private final ArrayList<Supplier> daftarSupplier;

    public lihatSupplier(ArrayList<Supplier> daftarSupplier) {
        this.daftarSupplier = daftarSupplier;
    }

    public void lihatSupplier() {
        if (daftarSupplier.isEmpty()) {
            System.out.println("Belum ada supplier yang terdaftar.");
            return;
        }
        System.out.println("\n=== Daftar Supplier ===");
        for (Supplier supplier : daftarSupplier) {
            System.out.println(supplier);
        }
    }
}
```

lihatBarang.java

```java
package myManajemen;

import java.util.ArrayList;
import myClass.Barang;

public final class lihatBarang {
    private final ArrayList<Barang> daftarBarang;

    public lihatBarang(ArrayList<Barang> daftarBarang) {
        this.daftarBarang = daftarBarang;
    }

    public void lihatBarang() {
        if (daftarBarang.isEmpty()) {
            System.out.println("Belum ada barang yang terdaftar.");
            return;
        }
        System.out.println("\n=== Daftar Barang ===");
        for (Barang barang : daftarBarang) {
            barang.printDetails();
        }
    }
}
```

hapusBarang.java

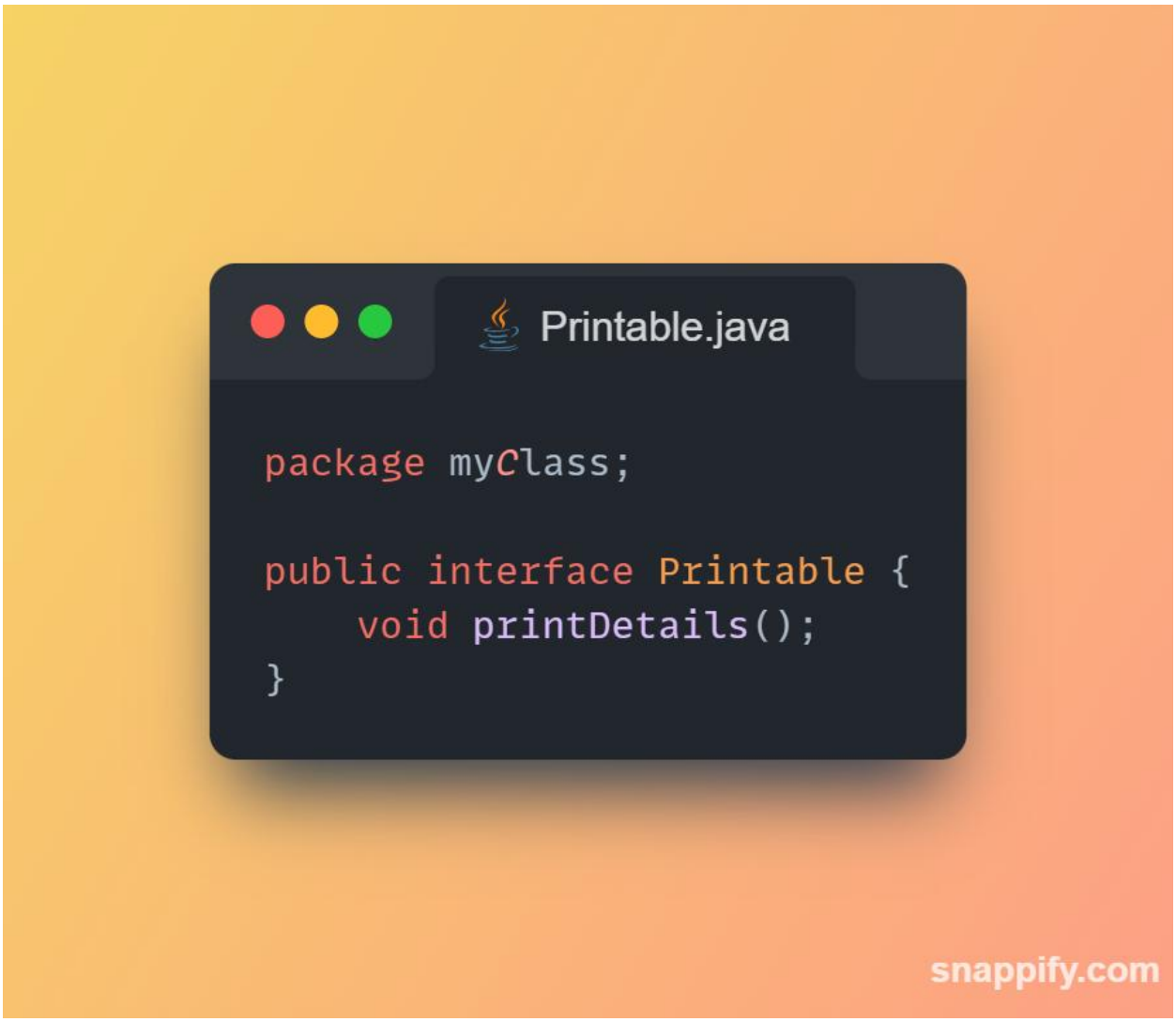
```java
package myManajemen;

import java.util.ArrayList;
import java.util.InputMismatchException;
import java.util.Scanner;
import myClass.Barang;

public class hapusBarang {
    private final ArrayList<Barang> daftarBarang;
    private final Scanner scanner;

    public hapusBarang(ArrayList<Barang> daftarBarang, Scanner scanner) {
        this.daftarBarang = daftarBarang;
        this.scanner = scanner;
    }

    public void hapusBarang(int id) {
        try {
            for (Barang barang : daftarBarang) {
                if (barang.getId() == id) {
                    daftarBarang.remove(barang);
                    System.out.println("Barang dengan ID " + id + " berhasil dihapus!");
                    return;
                }
            }
            System.out.println("Barang dengan ID tersebut tidak ditemukan.");
        } catch (Exception e) {
            System.out.println("Terjadi kesalahan saat menghapus barang: " + e.getMessage());
        }
    }

    public void hapusBarang(String nama) {
        try {
            for (Barang barang : daftarBarang) {
                if (barang.getNama().equalsIgnoreCase(nama)) {
                    daftarBarang.remove(barang);
                    System.out.println("Barang dengan nama \"" + nama + "\" berhasil dihapus!");
                    return;
                }
            }
            System.out.println("Barang dengan nama tersebut tidak ditemukan.");
        } catch (Exception e) {
            System.out.println("Terjadi kesalahan saat menghapus barang: " + e.getMessage());
        }
    }

    public void hapusBarang() {
        try {
            System.out.println("Pilih metode penghapusan barang:");
            System.out.println("1. Hapus berdasarkan ID");
            System.out.println("2. Hapus berdasarkan Nama");
            System.out.print("Pilihan: ");
            int pilihan = scanner.nextInt();
            scanner.nextLine();

            switch (pilihan) {
                case 1 -> {
                    System.out.print("Masukkan ID barang yang ingin dihapus: ");
                    int id = scanner.nextInt();
                    scanner.nextLine();
                    hapusBarang(id);
                }
                case 2 -> {
                    System.out.print("Masukkan nama barang yang ingin dihapus: ");
                    String nama = scanner.nextLine();
                    hapusBarang(nama);
                }
                default -> System.out.println("Pilihan tidak valid.");
            }
        } catch (InputMismatchException e) {
            System.out.println("Input tidak valid. Harap masukkan data dengan format yang benar.");
            scanner.nextLine(); // Clear invalid input
        } catch (Exception e) {
            System.out.println("Terjadi kesalahan: " + e.getMessage());
        }
    }
}
```

Pulpen.java

```java
package myClass;

public class Pulpen extends Barang {
    private boolean refillable;

    public Pulpen(int id, String nama, int stok, double harga, boolean refillable) {
        super(id, nama, stok, harga);
        this.refillable = refillable;
    }

    public void setRefillable(boolean refillable) {
        this.refillable = refillable;
    }

    @Override
    public String getDeskripsi() {
        return "Pulpen (refillable: " + refillable + ")";
    }

    @Override
    public String toString() {
        return super.toString() + " | Refillable: " + refillable;
    }
}
```

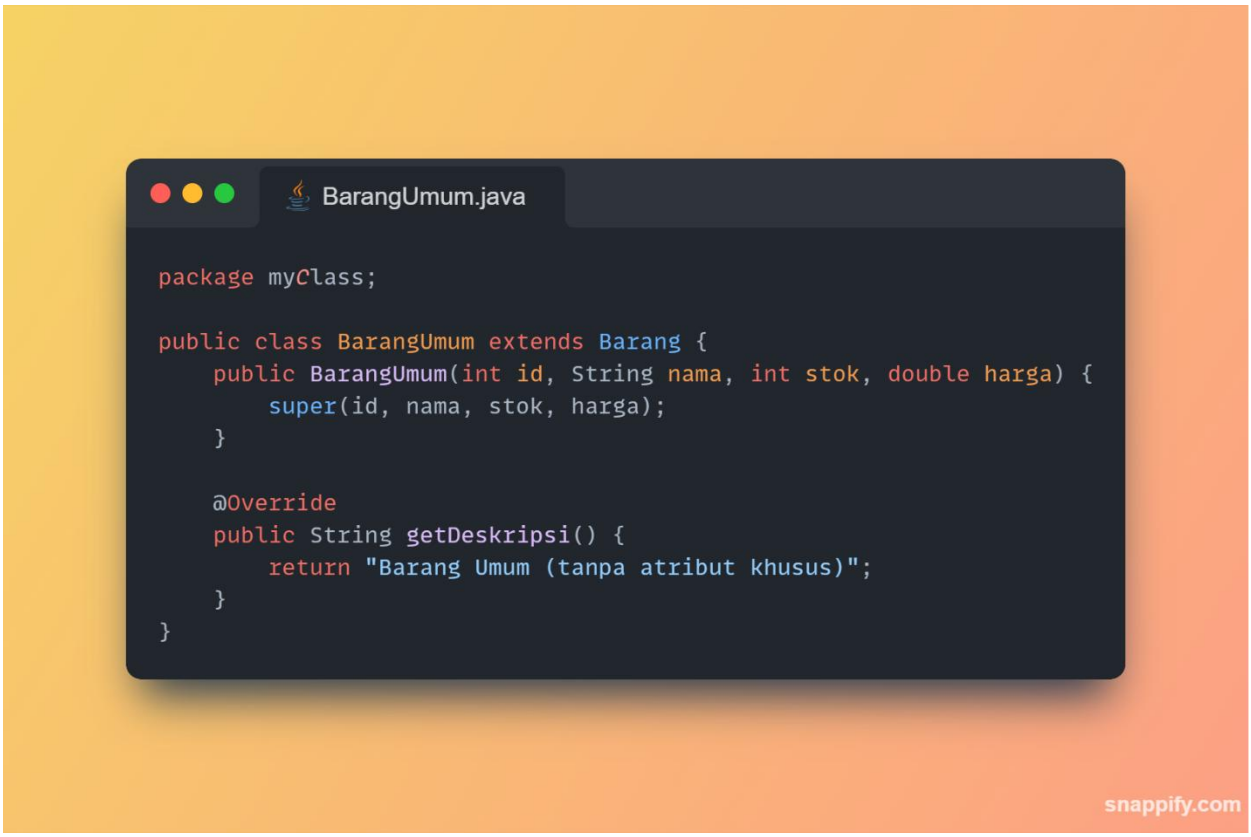
Supplier.java

```java
package myClass;

public final class Supplier {
    private final int id;
    private final String nama;
    private final String alamat;
    private final String telepon;

    public Supplier(int id, String nama, String alamat, String telepon) {
        this.id = id;
        this.nama = nama;
        this.alamat = alamat;
        this.telepon = telepon;
    }

    @Override
    public final String toString() {
        return "ID: " + id + " | Nama: " + nama + " | Alamat: " + alamat + " | Telepon: " + telepon;
    }
}
```


Printable.java
package myClass;
public interface Printable {
void printDetails();
}
snappify.com

BrushPen.java

```java
package myClass;

public class BrushPen extends Barang {
    private boolean blend;

    public BrushPen(int id, String nama, int stok, double harga, boolean blend) {
        super(id, nama, stok, harga);
        this.blend = blend;
    }

    public void setBlend(boolean blend) {
        this.blend = blend;
    }

    @Override
    public String getDeskripsi() {
        return "BrushPen (blend: " + blend + ")";
    }

    @Override
    public String toString() {
        return super.toString() + " | Blend: " + blend;
    }
}
```


BarangUmum.java
package myClass;
public class BarangUmum extends Barang {
public BarangUmum(int id, String nama, int stok, double harga) {
super(id, nama, stok, harga);
}
@Override
public String getDeskripsi() {
return "Barang Umum (tanpa atribut khusus)";
}
}
snappify.com

Barang.java

```java
package myClass;

public abstract class Barang implements Printable {
    private int id;
    private String nama;
    private int stok;
    private double harga;

    private static int totalBarang = 0;

    public Barang(int id, String nama, int stok, double harga) {
        this.id = id;
        this.nama = nama;
        setStok(stok);
        setHarga(harga);
        this.nama = nama;
        totalBarang++;
    }

    public int getId() {
        return id;
    }

    public void setNama(String nama) {
        this.nama = nama;
    }

    public String getNama() {
        return nama;
    }

    public void setStok(int stok) {
        try {
            if (stok < 0) {
                throw new IllegalArgumentException("Stok tidak boleh negatif.");
            }
            this.stok = stok;
        } catch (IllegalArgumentException e) {
            System.out.println("Error: " + e.getMessage());
        }
    }

    public void setHarga(double harga) {
        try {
            if (harga < 0) {
                throw new IllegalArgumentException("Harga tidak boleh negatif.");
            }
            this.harga = harga;
        } catch (IllegalArgumentException e) {
            System.out.println("Error: " + e.getMessage());
        }
    }

    public static int getTotalBarang() {
        return totalBarang;
    }

    public abstract String getDeskripsi();

    @Override
    public String toString() {
        return "ID: " + id + " | Nama: " + nama + " | Stok: " + stok + " | Harga: " + harga;
    }

    @Override
    public void printDetails() {
        System.out.println(this.toString());
    }
}
```