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\* The Product class represents an item in the e-commerce system. It includes attributes such as

\* product ID, name, price, description, and stock quantity. The class provides methods to access

\* and modify these attributes, as well as a toString() method to display product details.

\*/

package com.ecommerce;

public class Product {

private int productID;

private String name;

private double price;

private String description;

private int stockQuantity;

public Product(int productID, String name, double price, String description, int stockQuantity) {

if (productID <= 0) {

throw new IllegalArgumentException("Product ID must be positive.");

}

if (name == null || name.isEmpty()) {

throw new IllegalArgumentException("Product name cannot be null or empty.");

}

if (price < 0) {

throw new IllegalArgumentException("Product price cannot be negative.");

}

if (description == null || description.isEmpty()) {

throw new IllegalArgumentException("Product description cannot be null or empty.");

}

if (stockQuantity < 0) {

throw new IllegalArgumentException("Stock quantity cannot be negative.");

}

this.productID = productID;

this.name = name;

this.price = price;

this.description = description;

this.stockQuantity = stockQuantity;

}

public int getProductID() {

return productID;

}

public String getName() {

return name;

}

public double getPrice() {

return price;

}

public String getDescription() {

return description;

}

public int getStockQuantity() {

return stockQuantity;

}

public void setStockQuantity(int stockQuantity) {

if (stockQuantity < 0) {

throw new IllegalArgumentException("Stock quantity cannot be negative.");

}

this.stockQuantity = stockQuantity;

}

@Override

public String toString() {

return "Product [ID=" + productID + ", Name=" + name + ", Price=" + price +

", Description=" + description + ", Stock=" + stockQuantity + "]";

}

}