

JAVA FUNDAMENTALS SECTION-6:

Creating an Inventory Project

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Topics:

- Using loops
- Handling Exceptions
- Using if statements
- Arrays of objects

Problem Statement:

Create an inventory program that can be used for a range of different products.

Code:

```
import java.util.InputMismatchException;
```

```
import java.util.Scanner;
```

```
public class ProductTester {
```

```
    public static void main(String[] args) {
```

```
        Scanner scanner = new Scanner(System.in);
```

```
        int maxSize = -1;
```

```
        do {
```

```
            try {
```

```
                System.out.print("Enter the number of products you would like to add: ");
```

```
                maxSize = scanner.nextInt();
```

```
            } if (maxSize < 0) {
```

```
                System.out.println("Incorrect Value entered. Please enter a positive integer or 0.");
```

```

    }

    } catch (InputMismatchException e) {

        System.out.println("Incorrect data type entered! Please enter a valid integer.");

        scanner.next();

    } catch (Exception e) {

        System.out.println("An error occurred: " + e.getMessage());

        scanner.next();

    }

} while (maxSize < 0);

if (maxSize == 0) {

    System.out.println("No products required!");

} else {

    Product[] products = new Product[maxSize];

    for (int i = 0; i < maxSize; i++) {

        System.out.print("Enter product " + (i + 1) + " name: ");

        String name = scanner.next();

        System.out.print("Enter product " + (i + 1) + " quantity: ");

        int quantity = scanner.nextInt();

        System.out.print("Enter product " + (i + 1) + " price: ");

        double price = scanner.nextDouble();

        System.out.print("Enter product " + (i + 1) + " item number: ");

        int itemNumber = scanner.nextInt();

        products[i] = new Product(name, quantity, price, itemNumber);
    }
}

```

```

    }

    System.out.println("Product Information:");
    for (int i = 0; i < maxSize; i++) {
        System.out.println("Product " + (i + 1) + ":");
        System.out.println("Name: " + products[i].getName());
        System.out.println("Quantity: " + products[i].getQuantity());
        System.out.println("Price: " + products[i].getPrice());
        System.out.println("Item Number: " + products[i].getItemNumber());
        System.out.println();
    }
}
}
}
}

```

```

class Product {
    private String name;
    private int quantity;
    private double price;
    private int itemNumber;

    public Product(String name, int quantity, double price, int itemNumber) {
        this.name = name;
        this.quantity = quantity;
        this.price = price;
        this.itemNumber = itemNumber;
    }

    public String getName() {

```

```
        return name;
    }

    public int getQuantity() {
        return quantity;
    }

    public double getPrice() {
        return price;
    }

    public int getItemNumber() {
        return itemNumber;
    }
}
```

Output:

```
C:\Users\rishi>cd downloads

C:\Users\rishi\Downloads>javac ProductTester.java

C:\Users\rishi\Downloads>java ProductTester
Enter the number of products you would like to add: 2
Enter product 1 name: Chairs
Enter product 1 quantity: 5
Enter product 1 price: 40
Enter product 1 item number: 19150
Enter product 2 name: Icecreams
Enter product 2 quantity: 50
Enter product 2 price: 100
Enter product 2 item number: 19151
Product Information:
Product 1:
Name: Chairs
Quantity: 5
Price: 40.0
Item Number: 19150

Product 2:
Name: Icecreams
Quantity: 50
Price: 100.0
Item Number: 19151
```

Outputs with exceptions implementation:

```
C:\Users\rishi\Downloads>java ProductTester
Enter the number of products you would like to add: 5
Enter product 1 name: Chairs
Enter product 1 quantity: 40
Enter product 1 price: 450
Enter product 1 item number: jhs
Exception in thread "main" java.util.InputMismatchException
    at java.base/java.util.Scanner.throwFor(Scanner.java:964)
    at java.base/java.util.Scanner.next(Scanner.java:1619)
    at java.base/java.util.Scanner.nextInt(Scanner.java:2284)
    at java.base/java.util.Scanner.nextInt(Scanner.java:2238)
    at ProductTester.main(ProductTester.java:44)

C:\Users\rishi\Downloads>|
```

```
C:\Users\rishi>cd downloads
```

```
C:\Users\rishi\Downloads>javac ProductTester.java
```

```
C:\Users\rishi\Downloads>java ProductTester
```

```
Enter the number of products you would like to add: three
```

```
Incorrect data type entered! Please enter a valid integer.
```

```
Enter the number of products you would like to add: |
```

```
C:\Users\rishi>cd downloads
```

```
C:\Users\rishi\Downloads>javac ProductTester.java
```

```
C:\Users\rishi\Downloads>java ProductTester
```

```
Enter the number of products you would like to add: -9
```

```
Incorrect Value entered. Please enter a positive integer or 0.
```

```
Enter the number of products you would like to add: |
```