User Authentication Module

javascript
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```javascript
function login(username, password) {
    const validCredentials = { username: "admin", password:
"password123" };

    try {
        if (!username) {
            throw new Error("Username is required.");
        }
        if (!password) {
            throw new Error("Password is required.");
        }
        if (username !== validCredentials.username || password !==
validCredentials.password) {
            throw new Error("Invalid username or password.");
        }
        console.log("Login successful!");
    } catch (error) {
        console.error("Login Error:", error.message);
    }
}

// Example Usage
login("admin", "password123"); // Login successful!
login("", "password123"); // Username is required.
login("admin", "wrongpass"); // Invalid username or password.
```

Shopping Cart Module

javascript
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```javascript
const cart = [];

function addToCart(name, price, quantity) {
    try {
```

```javascript
        if (!name) {
            throw new Error("Product name is required.");
        }
        if (typeof price !== "number" || price <= 0) {
            throw new Error("Invalid product price.");
        }
        if (!Number.isInteger(quantity) || quantity <= 0) {
            throw new Error("Invalid quantity.");
        }
        cart.push({ name, price, quantity });
        console.log(`${name} added to cart successfully.`);
    } catch (error) {
        console.error("Cart Error:", error.message);
    }
}


// Example Usage
addToCart("Laptop", 1000, 2); // Laptop added to cart successfully.
addToCart("", 1000, 2); // Product name is required.
addToCart("Phone", -500, 1); // Invalid product price.
addToCart("Tablet", 200, 0); // Invalid quantity.
```

Checkout Module

javascript
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```javascript
function checkout() {
    try {
        if (cart.length === 0) {
            throw new Error("Cart is empty. Add items before
checkout.");
        }
        console.log("Checkout successful!");
    } catch (error) {
        console.error("Checkout Error:", error.message);
    }
}
```

```javascript
// Example Usage
checkout(); // Cart is empty. Add items before checkout.
addToCart("Headphones", 150, 1);
checkout(); // Checkout successful!
```

Payment Processing Module

javascript
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```javascript
function processPayment(amount, cardNumber, expirationDate) {
    try {
        if (typeof amount !== "number" || amount <= 0) {
            throw new Error("Invalid payment amount.");
        }
        if (!cardNumber || !/^\d{16}$/.test(cardNumber)) {
            throw new Error("Invalid card number.");
        }
        if (!expirationDate || !/^\d{2}\/\d{2}$/.test(expirationDate))
{
            throw new Error("Invalid expiration date.");
        }
        console.log("Payment processed successfully!");
    } catch (error) {
        console.error("Payment Error:", error.message);
    }
}


// Example Usage
processPayment(500, "1234567812345678", "12/25"); // Payment processed
successfully!
processPayment(-200, "1234567812345678", "12/25"); // Invalid payment
amount.
processPayment(500, "", "12/25"); // Invalid card number.
processPayment(500, "1234567812345678", ""); // Invalid expiration
date.
```