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**CS 401**

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**Homework 2**

### **Test Case 1: Adding book item to cart**

**Input 1, 1, 1**

**Expected Output: Java Programming added to the cart.**

**Output:**

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 1

Choose category to add:
1. Book
2. Electronic
3. Clothing
Enter your choice: 1

Choose book to add:
1. Java Programming
2. Python Programming
3. C++ Programming
Enter your choice: 1

Java Programming added to the cart.

Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice:
```

### **Test Case 2: Adding electronic item to cart**

**Input 1, 2, 1**

**Expected Output: Smartphone added to the cart.**

**Output:**

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 1

Choose category to add:
1. Book
2. Electronic
3. Clothing
Enter your choice: 2

Choose electronic to add:
1. Smartphone
2. Laptop
3. Tablet
Enter your choice: 1

Smartphone added to the cart.
```

### Test Case 3: Adding Clothing item to cart

Input 1, 3, 1

Expected Output: T-Shirt added to the cart

Output:

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 1

Choose category to add:
1. Book
2. Electronic
3. Clothing
Enter your choice: 3

Choose clothing to add:
1. T-Shirt
2. Jeans
3. Jacket
Enter your choice: 1

T-Shirt added to the cart.
```

### Test Case 4: Show all items

Input 3

Expected Output:

```
Book{title='Learn Java', author='John Doe', genre='Programming', name='Java Programming', id=101, price=29.99,
category='Book'}
Electronic{brand='TechBrand', model='2 years', name='Smartphone', id=202, price=499.99, category='Electronic'}
Clothing{size='M', color='Cotton', name='T-Shirt', id=303, price=19.99, category='Clothing'}
```

Output:

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 3

Cart contents:
Book{title='Learn Java', author='John Doe', genre='Programming', name='Java Programming', id=101, price=29.99, category='Book'}
Electronic{brand='TechBrand', model='2 years', name='Smartphone', id=202, price=499.99, category='Electronic'}
Clothing{size='M', color='Cotton', name='T-Shirt', id=303, price=19.99, category='Clothing'}
```

### Test Case 5: Show total price

Input 4

Expected Output: Total price: \$549.97

Output:

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 4

Total price: $549.97
```

### Test Case 6: remove book item

Input 2,1

Expected Output: Java Programming removed from the cart.

Output:

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 2

Choose item to remove:
1. Java Programming
2. Smartphone
3. T-Shirt
Enter your choice: 1

Java Programming removed from the cart.
```

### Test Case 7: remove electronic item

Input 2,1

Expected Output: Smartphone removed from the cart.

Output:

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 2

Choose item to remove:
1. Smartphone
2. T-Shirt
Enter your choice: 1

Smartphone removed from the cart.
```

### Test Case 8: Remove Clothing item

Input 2,1

Expected Output: T-Shirt removed from the cart.

Output:

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: 2

Choose item to remove:
1. T-Shirt
Enter your choice: 1

T-Shirt removed from the cart.
```

**=Test Case 9: Show all items with empty cart**

**Input 3**

**Expected Output: Cart contents:**

**Expected Output:**

Choose an option:

1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order

Enter your choice: 3

Cart contents:

**Test Case 10: Show total price with empty cart**

**Input 4**

**Expected Output: Total price: \$0.0**

**Output:**

Choose an option:

1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order

Enter your choice: 4

Total price: \$0.0

**Test Case 11: Try to remove non existent item**

**Input 2:**

**Expected Output: Your cart is empty.**

**Output:**

Choose an option:

1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order

Enter your choice: 2

Your cart is empty.

### Test Case 12: Input invalid option in Choose an option

Input hello

Expected Output: Invalid input. Please enter an integer.

Output:

```
Choose an option:
1. Add item to cart
2. Remove item from cart
3. View cart
4. View total price
5. Complete order
Enter your choice: hello
Invalid input. Please enter an integer.
```

### Test Case 13: Input invalid option in add item

Input hello

Expected Output: Invalid input. Please enter an integer.

Output:

```
Choose category to add:
1. Book
2. Electronic
3. Clothing
Enter your choice: hello
Invalid input. Please enter an integer.
```

### Test Case 14: Input invalid option in remove item

Input hello

Expected Output: Invalid input. Please enter an integer.

Output

```
Choose item to remove:
1. Java Programming
Enter your choice: hello
Invalid input. Please enter an integer.
```

### Test Case 15: End program

Input 5

Expected Output: Whatever the user added to their cart

Output:

```
Order completed. Final cart contents:
Book{title='Learn Java', author='John Doe', genre='Programming', name='Java Programming', id=101, price=29.99, category='Book'}
Total price: $29.99
```