From List to Basket: The Shopping Cart Adventure.

Python Functionalities Used in Shopping Cart Program:

The provided shopping cart program utilizes various Python functionalities, including:

Functions:

- add_item: This function takes user input and creates a new Item object with specified name, category, quantity, and price.
- remove_item: This function prompts the user to choose an item by index and removes it from the shopping list.
- edit_item: This function allows users to modify existing items by selecting them and changing their specific attributes.
- view_list: This function iterates through the shopping list and displays each item with its details.
- calculate_total: This function iterates through the list and calculates the overall cost by multiplying quantity by price for each item.

Data Structures:

- List: This data type stores the list of Item objects representing items in the shopping cart.
- Dictionary: The Item class utilizes a dictionary to store the item's name, category, quantity, and price as key-value pairs.

Other Functionalities:

- input: This function is used to receive user input for various parameters like item name, category, quantity, and price.
- print: This function is used to display various information like menus, shopping list details, and calculation results.
- int: This function converts user input strings to integers for quantity and index-based selections.
- float: This function converts user input strings to floats for price values.
- for loop: This loop structure iterates through the shopping list to perform operations on each item.
- if-else statements: These control structures handle user choices and different program conditions.

Overall, the program demonstrates the effective use of various Python functionalities to build a practical and interactive shopping cart program.

```
shopping_list = []

class Item:
    def __init__(self, name, category, quantity, price):
        self.name = name
        self.category = category
        self.quantity = quantity
        self.price = price

def add_item(shopping_list):
    name = input("Enter item name: ")
    category = input("Enter item category: ")
    quantity = int(input("Enter item quantity: "))
    price = float(input("Enter item price: "))
    shopping_list.append(Item(name, category, quantity, price))

def remove_item(shopping_list):
    print("List of items:")
    for i, item in enumerate(shopping_list):
        print(f"{i}: {item.name} ({item.quantity}x) {item.price}
{item.category}")
    index = int(input("Enter item index to remove: "))
    del shopping_list[index]

def edit_item(shopping_list):
    print("List of items:")
    for i, item in enumerate(shopping_list):
        print(f"{i}: {item.name} ({item.quantity}x) {item.price}
{item.category}")
    index = int(input("Enter item index to edit: "))
    field = input("Enter field to edit (name, category, quantity,
price): ")
    field = field.lower()
    if field == "name":
        shopping_list[index].name = input("Enter new name: ")
    elif field == "category":
        shopping_list[index].category = input("Enter new category: ")
    elif field == "quantity":
        shopping_list[index].quantity = int(input("Enter new quantity:
"))
    elif field == "price":
        shopping_list[index].price = float(input("Enter new price: "))

def view_list(shopping_list):
    print("Shopping List:")
    print("-----------------")
    for item in shopping_list:
        print(f"{item.name}: {item.quantity}x ({item.category}) - ₹
{item.price:.2f}")
    print("-----------------")
```

```
def calculate_total(shopping_list):
    total = 0
    for item in shopping_list:
        total += item.quantity * item.price
    return total

while True:
    print("Shopping Cart Menu:")
    print("1. Add item")
    print("2. Remove item")
    print("3. Edit item")
    print("4. View list")
    print("5. Calculate total")
    print("6. Exit")

    choice = input("Enter your choice: ")

    if choice == "1":
        add_item(shopping_list)
    elif choice == "2":
        remove_item(shopping_list)
    elif choice == "3":
        edit_item(shopping_list)
    elif choice == "4":
        view_list(shopping_list)
    elif choice == "5":
        total = calculate_total(shopping_list)
        print(f"Total: ₹{total:.2f}")
    elif choice == "6":
        break
    else:
        print("Invalid choice. Please try again.")

print("Thank you for using the shopping cart program!")
```

```
Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 1
Enter item name: Apple
Enter item category: Friuts
Enter item quantity: 4
Enter item price: 30
Shopping Cart Menu:
1. Add item
```

```
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 1
Enter item name: Grapes
Enter item category: Friuts
Enter item quantity: 3
Enter item price: 125
Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 1
Enter item name: Kiwi
Enter item category: Fruits
Enter item quantity: 7
Enter item price: 50
Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 1
Enter item name: Watermelon
Enter item category: Dairy
Enter item quantity: 5
Enter item price: 100
Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 1
Enter item name: Milk
Enter item category: Dairy
Enter item quantity: 2
Enter item price: 90
Shopping Cart Menu:
1. Add item
2. Remove item
```

```
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 2
List of items:
0: Apple (4x) 30.0 Friuts
1: Grapes (3x) 125.0 Friuts
2: Kiwi (7x) 50.0 Fruits
3: Watermelon (5x) 100.0 Dairy
4: Milk (2x) 90.0 Dairy
Enter item index to remove: 4
Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 3
List of items:
0: Apple (4x) 30.0 Friuts
1: Grapes (3x) 125.0 Friuts
2: Kiwi (7x) 50.0 Fruits
3: Watermelon (5x) 100.0 Dairy
Enter item index to edit: 3
Enter field to edit (name, category, quantity, price): category
Enter new category: Friuts
Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 4
Shopping List:
-----------------
Apple: 4x (Friuts) - ₹30.00
Grapes: 3x (Friuts) - ₹125.00
Kiwi: 7x (Fruits) - ₹50.00
Watermelon: 5x (Friuts) - ₹100.00
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Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
```

```
6. Exit
Enter your choice: 5
Total: ₹1345.00
Shopping Cart Menu:
1. Add item
2. Remove item
3. Edit item
4. View list
5. Calculate total
6. Exit
Enter your choice: 6
Thank you for using the shopping cart program!
```