

```

#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define MAX_CART 100
#define MAX_HISTORY 10
#define ITEM_LEN 50

void removeFromCart(Cart *cart) {
    if(cart->top > 0) {
        cart->top--;
        printf("Removed %s from the cart.\n", cart->items[cart->top]);
    } else {
        printf("The cart is empty.\n");
    }
}

void viewCart(Cart *cart) {
    if(cart->top > 0) {
        printf("Items in the cart:\n");
        for(int i = 0; i < cart->top; i++) {
            printf("%s\n", cart->items[i]);
        }
    } else {
        printf("The cart is empty.\n");
    }
}

void addHistory(History *history, item) {
    if(history->front == -1) {
        printf("Purchase history:\n");
        for(int i = history->rear + 1; i < (i + 1) % MAX_HISTORY; i++) {
            printf("%s\n", history->history[i]);
        }
    } else {
        printf("No purchase history available.\n");
    }
}

void viewHistory(History *history) {
    int max = -1;
    Cart cart;
    History history;
    char item[ITEM_LEN];
    int choice;
    intQ(&cart, &history);

    while(1) {
        printf("(1) Shopping Cart Menu\n");
        printf("1. Add item\n");
        printf("2. Remove item\n");
        printf("3. View Cart\n");
        printf("4. Checkout\n");

        choice = getChar();
        if(choice == '1') {
            if(history->front == -1) {
                history->front = 0;
            }
            addHistory(history, item);
            if(history->front + 1 % MAX_HISTORY == history->front) {
                history->front = -1;
                strcpy(history->history[history->rear], item);
            } else {
                history->history[history->front + 1] = '\0';
                history->front++;
            }
        } else if(choice == '2') {
            printf("Purchase history is full. Oldest record removed.\n");
            history->front = (history->front + 1) % MAX_HISTORY;
            if(history->front == history->rear + 1) {
                history->front = -1;
            }
        } else if(choice == '3') {
            addHistory(&history, allItems);
            cart.top = 0;
            printf("Checked out items: %s\n", allItems);
            break;
        } else if(choice == '4') {
            viewHistory(&history);
            exit(0);
        } else {
            printf("Invalid choice. Please try again.\n");
        }
    }
    return 0;
}

intQ(Cart &cart) {
    char allItems[MAX_CART * ITEM_LEN] = {0};
    int count = cart.top;
    for(int i = 0; i < count; i++) {
        strcat(allItems, cart.items[i]);
    }
    strcat(allItems, "\0");
}

void viewCart(Cart &cart) {
    if(count > 0) {
        allItems[strlen(allItems) - 2] = '\0';
    }
}

```