```
#include <stdio.h>
#include <stdlib.h>
struct Node {
    int data;
    struct Node* next;
};
struct Node* createNode(int data) {
    struct Node* newNode = (struct Node*) malloc(sizeof(struct Node));
    newNode->data = data;
    newNode->next = NULL;
    return newNode;
void add(struct Node** head, int data) {
    struct Node* newNode = createNode(data);
    if (*head == NULL) {
        *head = newNode;
        return;
    struct Node* temp = *head;
    while (temp->next != NULL) {
        temp = temp->next;
    temp->next = newNode;
void sort(struct Node** head) {
    struct Node *i, *j;
    int temp;
    for (i = *head; i != NULL; i = i->next) {
        for (j = i-\text{next}; j != \text{NULL}; j = j-\text{next}) {
            if (i->data > j->data) {
                temp = i->data;
                i->data = j->data;
                j->data = temp;
void reverse(struct Node** head) {
    struct Node *prev = NULL, *current = *head, *next = NULL;
    while (current != NULL) {
```

```
next = current->next;
        current->next = prev;
        prev = current;
        current = next;
    *head = prev;
void concatenate(struct Node* L1, struct Node* L2) {
    if (L1 == NULL) {
        L1 = L2;
        return;
    struct Node* temp = L1;
    while (temp->next != NULL) {
        temp = temp->next;
    temp->next = L2;
void display(struct Node* head) {
    while (head != NULL) {
        printf("%d ", head->data);
        head = head->next;
    printf("\n");
int main() {
    struct Node* L1 = NULL;
    struct Node* L2 = NULL;
    int c, d;
    printf("Enter your choice:\n 1. Append to L1\n 2. Append to L2\n 3. Sort L1\n
4. Sort L2\n 5. Display L1\n 6. Reverse L1\n 7. Concatenate L2 to L1\n 8.
Exit\n");
    while (1) {
        printf("Enter choice: ");
        scanf("%d", &c);
        switch (c) {
            case 1:
                printf("Enter value: ");
                scanf("%d", &d);
                add(&L1, d);
                break;
```

```
case 2:
            printf("Enter value: ");
            scanf("%d", &d);
            add(&L2, d);
            break;
        case 3:
            sort(&L1);
            break;
        case 4:
            sort(&L2);
            break;
        case 5:
            display(L1);
            break;
        case 6:
            reverse(&L1);
            break;
        case 7:
            concatenate(L1, L2);
            break;
        case 8:
            exit(0);
        default:
            printf("Invalid choice\n");
return 0;
```

## Output:

```
Enter your choice:
 1. Append to L1
 2. Append to L2
 3. Sort L1
 4. Sort L2
 5. Display L1
 6. Reverse L1
 7. Concatenate L2 to L1
 8. Exit
Enter choice: 2
Enter value: 2
Enter choice: 1
Enter value: 2
Enter choice: 1
Enter value: 1
Enter choice: 1
Enter value: 8
Enter choice: 1
Enter value: 2
Enter choice: 2
Enter value: 3
Enter choice: 2
Enter value: 5
Enter choice: 5
2 1 8 2
Enter choice: 3
Enter choice: 4
Enter choice: 5
1 2 2 8
Enter choice: 6
Enter choice: 5
8 2 2 1
Enter choice: 7
Enter choice: 5
8 2 2 1 2 3 5
Enter choice:
```

	PAGE:
0 1. ( )	
white (1)	3 11113
Le ACCU C De	County N.
scauf ("1 d"; & ch);	
scauf ("40", xch);	
dwitch (c)	
3	
,	1.1.1
freety (" take cate"	"),
seary (" 4.d", & das	).
affend	1
add ( & llh , data)	· Va map
break;	
(ast 2;	43 400400 -3
	4) .
freed (" Enhs data	
seauf (" 1d", & d add ( & l2h, dath)	) i management
break;	121
AND THE PERSON OF THE PERSON O	Cather Calardial
fruit (" dat 1: ")	total siles ( state 1 s
Can 4:	Calla Clinici I
	O puro Mari
puits ("dist 2:".	(0.01 (1.00.01 2.1 )
disflay L ( l2h); break;	EURI JUN 12
	स्थित राज्य 2
cans	Cody dala 11
sort (8 llh);	Enter clased & 5
break;	Ester chera 3
case 6:	7.1.03 Hull
Recursel (selly)	ENTO CLOSED 6
ca break;	Color clasers
Cay 7:	
concadenaly L ( & lih, & l	24);

-

#

	PAGE : DATE :/
cau 8:	
reh	un O;
	Canada tana at a canada
default:	At the same of the
prin	He Twalid luput ");
0	(5) Ashari
Dulkut:	2
Enhr Chou	Cast on A Marie San
1- Affect to U	(b) 2 . b + 13 hours
2. Affect to l? 3. duflay l1 4. duflay l2	his and
4. duffay 12	where all some
5. 508k e)	break
6. Rellen 21	5 WEY
7. Concahnah	12 tol
o. But	100m , 337 & 2 Mag
Entre choice : \$1	Scool
tuhi choue: 41	2 403
hit Gohr datal:	(" Lare L" Lare L")
The clour o 1	Gent of Justine
Enha dala: 0	- Chicago
Fuhr choice 2:	Fully closely 7
Fuhr clata: 12	Ruhe choice 3
Puhr choice 2	dist 1: 8,8,10,12,15
Enhs data: 15	2004
Cahr choice & 8	(610 2) 1160
fish choice 3 hist: \$0,1,5	Angel
Puhu choil 6	7 A N. 15
Cuhr chours	Course V Income?
dut1: 5,1,0	Car Monte
	3. ME11 Dan 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1