

5. Implement a C Program for Merging of two list

Code

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
struct Node {
```

```
    int data;
```

```
    struct Node *next;
```

```
};
```

```
int main() {
```

```
    // Create first list: 2 -> 3 -> 4
```

```
    struct Node *a1 = malloc(sizeof(struct Node));
```

```
    struct Node *a2 = malloc(sizeof(struct Node));
```

```
    struct Node *a3 = malloc(sizeof(struct Node));
```

```
    a1->data = 2; a1->next = a2;
```

```
    a2->data = 3; a2->next = a3;
```

```
    a3->data = 4; a3->next = NULL;
```

```
    // Create second list: 5 -> 6 -> 7
```

```
    struct Node *b1 = malloc(sizeof(struct Node));
```

```
    struct Node *b2 = malloc(sizeof(struct Node));
```

```
    struct Node *b3 = malloc(sizeof(struct Node));
```

```
    b1->data = 5; b1->next = b2;
```

```
    b2->data = 6; b2->next = b3;
```

```
    b3->data = 7; b3->next = NULL;
```

```
    // Merge: attach end of first to start of second
```

```
struct Node *temp = a1;
while (temp->next != NULL)
    temp = temp->next;
temp->next = b1;

// Print merged list
printf("Merged list: ");
temp = a1;
while (temp != NULL) {
    printf("%d ", temp->data);
    temp = temp->next;
}
printf("\n");

return 0;
}
```

Output

main.c

Share

Run

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 struct Node {
5     int data;
6     struct Node *next;
7 };
8
9 int main() {
10     // Create first list: 2 -> 3 -> 4
11     struct Node *a1 = malloc(sizeof(struct Node));
12     struct Node *a2 = malloc(sizeof(struct Node));
13     struct Node *a3 = malloc(sizeof(struct Node));
14     a1->data = 2; a1->next = a2;
15     a2->data = 3; a2->next = a3;
16     a3->data = 4; a3->next = NULL;
17
18     // Create second list: 5 -> 6 -> 7
19     struct Node *b1 = malloc(sizeof(struct Node));
20     struct Node *b2 = malloc(sizeof(struct Node));
21     struct Node *b3 = malloc(sizeof(struct Node));
22     b1->data = 5; b1->next = b2;
23     b2->data = 6; b2->next = b3;
24     b3->data = 7; b3->next = NULL;
25
26     // Merge: attach end of first to start of second
27     struct Node *temp = a1;
28     while (temp->next != NULL)
29         temp = temp->next;
30     temp->next = b1;
31
32     // Print merged list
33     printf("Merged list: ");
34     temp = a1;
35     while (temp != NULL) {
36         printf("%d ", temp->data);
37         temp = temp->next;
38     }
39     printf("\n");
40     return 0;
41 }
42 }
```

Output

Merged list: 2 3 4 5 6 7

=== Code Execution Successful ===