Implementation of Stack using Linked List

```
#include <stdio.h>
#include <stdlib.h>
struct Node {
   int data;
   struct Node *next;
} *top = NULL;
void push(int);
void pop();
void display();
int main() {
   int choice, value;
   printf("\n:: Stack using Linked List ::\n");
   while (1) {
      printf("\n****** MENU ******\n");
      printf("1. Push\n2. Pop\n3. Display\n4. Exit\n");
      printf("Enter your choice: ");
      scanf("%d", &choice);
      switch (choice) {
         case 1:
            printf("Enter the value to insert: ");
            scanf("%d", &value);
            push(value);
            break;
         case 2:
            pop();
            break;
         case 3:
            display();
            break;
         case 4:
```

```
            exit(0);
        default:
            printf("\nWrong selection!!! Please try again!!!\n");
      }
   }
   return 0;
}
void push(int value) {
   struct Node *newNode;
   newNode = (struct Node*)malloc(sizeof(struct Node));
   if (newNode == NULL) {
      printf("\nMemory allocation failed!\n");
      return;
   }
   newNode->data = value;
   newNode->next = top;
   top = newNode;
   printf("\nInsertion is Success!!!\n");
}
void pop() {
   if (top == NULL) {
      printf("\nStack is Empty!!!\n");
   } else {
      struct Node *temp = top;
      printf("\nDeleted element: %d\n", temp->data);
      top = temp->next;
      free(temp);
   }
}
void display() {
   if (top == NULL) {
```

```
        printf("\nStack is Empty!!!\n");
    } else {
        struct Node *temp = top;
        printf("\nStack elements are: ");
        while (temp != NULL) {
            printf("%d ---> ", temp->data);
            temp = temp->next;
        }
        printf("NULL\n");
    }
}
```

main.c

Share Run

```c
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} *top = NULL;
void push(int);
void pop();
void display();
int main() {
    int choice, value;
    printf("\n:: Stack using Linked List ::\n");
    while (1) {
        printf("\n****** MENU ******\n");
        printf("1. Push\n2. Pop\n3. Display\n4. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);
        switch (choice) {
            case 1:
                printf("Enter the value to insert: ");
                scanf("%d", &value);
                push(value);
                break;
            case 2:
                pop();
                break;
            case 3:
                display();
                break;
```

Output

```
:: Stack using Linked List ::

****** MENU ******
1. Push
2. Pop
3. Display
4. Exit
Enter your choice: 1
Enter the value to insert: 20

Insertion is Success!!!

****** MENU ******
1. Push
2. Pop
3. Display
4. Exit
Enter your choice: 3

Stack elements are: 20 ---> NULL

****** MENU ******
1. Push
2. Pop
3. Display
4. Exit
Enter your choice:
```