

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

Output

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  struct Node {
4      int data;
5      struct Node *next;
6  } *top = NULL;
7  void push(int);
8  void pop();
9  void display();
10 int main() {
11     int choice, value;
12     printf("\n:: Stack using Linked List ::\n");
13     while (1) {
14         printf("\n***** MENU *****\n");
15         printf("1. Push\n2. Pop\n3. Display\n4. Exit\n");
16         printf("Enter your choice: ");
17         scanf("%d", &choice);
18         switch (choice) {
19             case 1:
20                 printf("Enter the value to insert: ");
21                 scanf("%d", &value);
22                 push(value);
23                 break;
24             case 2:
25                 pop();
26                 break;
27             case 3:
28                 display();
29                 break;

```

```

:: 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:

```