STACK USING LINKED LIST

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   /******    Program to Implement Stack using Linked List    ******/

#include <stdio.h>

void push();
void pop();
void display();

struct node
{
       int info;
       struct node *link;
} *top = NULL;

int item;

main()
{
      int ch;

      do
      {
          printf("\n\n1. Push\n2. Pop\n3. Display\n4. Exit\n");
          printf("\nEnter your choice: ");
          scanf("%d", &ch);

          switch(ch)
          {
                case 1:
                     push();
                     break;

                case 2:
                     pop();
                     break;

                case 3:
                     display();
                     break;

                case 4:
                     exit(0);
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                default:
                     printf("Invalid choice. Please try again.\n");
          }
       } while(1);
       getch();
}

void push()
{
     struct node *ptr;

     printf("\n\nEnter ITEM: ");
     scanf("%d", &item);

     if (top == NULL)
     {
             top = (struct node *)malloc(sizeof(struct node));
             top->info = item;
             top->link = NULL;
     }
     else
     {
             ptr = top;
             top = (struct node *)malloc(sizeof(struct node));
             top->info = item;
             top->link = ptr;
     }

     printf("\nItem inserted: %d\n", item);
}

void pop()
{
     struct node *ptr;

     if (top == NULL)
             printf("\n\nStack is empty\n");
     else
     {
             ptr = top;
             item = top->info;
             top = top->link;
             free(ptr);

             printf("\n\nItem deleted: %d", item);
     }
}
```

```
void display()
{
     struct node *ptr;

     if (top == NULL)
        printf("\n\nStack is empty\n");
     else
     {
         ptr = top;

         while(ptr != NULL)
         {
                   printf("\n\n%d", ptr->info);
                   ptr = ptr->link;
         }
     }
}
```