#include<stdio.h>

#include<stdlib.h>

#define MAX\_SIZE 3

struct node

{

int data;

struct node \*next;

}\*newnode,\*top,\*temp;

int count=0;

void push(int a) //push is essentially inserting the newnode to the beginning of the linked list

{

newnode = (struct node \*)malloc(sizeof(struct node));

newnode->data = a;

if (count == MAX\_SIZE) //checking the full condition

{

printf("Stack overflow..");

}

else if (top == NULL)

{

top = newnode;

newnode->next = NULL;

count++; //to check whether the stack has reached to the MAX\_SIZE

printf("node pushed successfully..");

}

else{

newnode->next = top;

top = newnode;

count++;

printf("node pushed successfully..");

}

}

void pop(){

if (top == NULL)

{

printf("stack underflow..");

}

else{

temp = top;

top = top->next;

free(temp);

count --;

printf("node popped succesfully..");

}

}

void traverse(){

if (top == NULL)

{

printf("nothing here to display..");

}

else{

temp = top;

while (temp->next!=NULL)

{

printf("%d -> ",temp->data);

temp = temp->next;

}

printf("%d",temp->data);

}

}

void main()

{

int ch,data;

do{

printf("\n\n1.PUSH\n2.POP\n3.TRAVERSE\n");

scanf("%d",&ch);

switch (ch)

{

case 1:

printf("enter the number : ");

scanf("%d",&data);

push(data);

break;

case 2:

pop();

break;

case 3:

traverse();

break;

default:

break;

}

printf("\ndo you want to continue (0/1) : ");

scanf("%d",&ch);

}while(ch!=0);

}

OUTPUT

1.PUSH

2.POP

3.TRAVERSE

1

enter the number : 1

node pushed successfully..

do you want to continue (0/1) : 1

1.PUSH

2.POP

3.TRAVERSE

1

enter the number : 2

node pushed successfully..

do you want to continue (0/1) : 1

1.PUSH

2.POP

3.TRAVERSE

3

2 -> 1

do you want to continue (0/1) : 1

1.PUSH

2.POP

3.TRAVERSE

2

node popped succesfully..

do you want to continue (0/1) : 1

1.PUSH

2.POP

3.TRAVERSE

3

1

do you want to continue (0/1) : 0