#include<stdio.h>//standard I/O header file

#include<stdlib.h>//standard library header file

void push();

void pop();

void display();

int main()

{

int choice; //declaring variables

while(1) //checks the condition and enters the while loop

{

printf("Operation performed by stack\n");//printing statement

printf("1.push\n2.Pop\n3.Display\n4.Exit\n");//printing statement

printf("Enter the choice\n");//printing statement

scanf("%d",&choice); //store of value in variable

switch(choice) //switch statement initialization

{

case 1:push();//if option 1 go o push

break;

case 2:pop();if option is 2 go to pop

break;

case 3:display();//if option is 3 go to display

break;

case 4:exit(0); //if option is 4 exit the loop

default:printf("Invalid choice\n");//printing statement

}

}

}

struct node

{

int val;

struct node \*next;

};

struct node \*head;

void push()

{

int val;

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

if(ptr==NULL) //condition check

{

printf("Not able to push the element\n");//printing statement

}

else

{

printf("Enter the value\n");//printing statement

scanf("%d",&val); //store of value in variable

}

if(head==NULL) //condition check

{

ptr->val=val;

ptr->next=NULL;

head=ptr;

}

else

{

{

ptr->val=val;

ptr->next=head;

head=ptr;

}

printf("Item pushed\n");//printing statement

}

}

void pop()

{

int item;

struct node \*ptr;

if(head==NULL) //condition check

{

printf("Underflow\n");//printing statement

}

else

{

item=head->val;

ptr=head;

head=head->next;

free(ptr);

printf("Item popped\n");//printing statement

}

}

void display()

{

int i;

struct node \*ptr;

ptr=head;

if(ptr==NULL) //condition check

{

printf("Stack is empty\n");//printing statement

}

else

{

printf("printing stack\n");//printing statement

while(ptr!=NULL) //condition check

{

printf("%d\n",ptr->val); //printing elements

ptr=ptr->next;

}

}

}