#include<stdio.h>

int stack[100],choice,n,tp,x,i;

void push(void);

void pop(void);

void top(void);

void display(void);

int main()

{

tp=-1;

n=100;

do

{

printf("\nChoose the option");

printf("\n1.Push\n2.Pop\n3.Top\n4.Display\n5.Exit\n");

scanf("%d",&choice);

switch(choice)

{

case 1:

{

push();

break;

}

case 2:

{

pop();

break;

}

case 3:

{

top();

break;

}

case 4:

{

display();

break;

}

case 5:

{

printf("\nThank you for using Stack ");

break;

}

default:

{

printf ("\nThank you for using Stack");

}

}

}

while(choice!=5);

return 0;

}

void push()

{

if(tp>=n-1)

{

printf("\nStack overflow");

}

else

{

printf("\nEnter the element to push\n");

scanf("%d",&x);

tp++;

stack[tp]=x;

}

}

void pop()

{

if(tp<=-1)

{

printf("\nStack underflow");

}

else

{

printf("\nThe popped element is %d",stack[tp]);

tp--;

}

}

void top()

{

printf("\nTop pointer is pointing to: \n");

printf("%d",stack[tp]);

}

void display()

{

if(tp>=0)

{

printf("\nThe contents of the Stack are :");

for(i=tp; i>=0; i--)

printf("\n%d",stack[i]);

}

else

{

printf("\nThe STACK is empty");

}

}