#include<stdio.h>

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

void PUSH(void);

void POP(void);

void DISPLAY(void);

int main()

{

top=-1;

printf("\n ENTER SIZE OF STACK:");

scanf("%d",&n);

printf("\n\t STACK OPERATIONS");

printf("\n\t 1.PUSH\n\t 2.POP\n\t 3.DISPLAY\n\t 4.EXIT");

do

{

printf("\n ENTER CHOICE:");

scanf("%d",&choice);

switch(choice)

{

case 1:

{

PUSH();

break;

}

case 2:

{

POP();

break;

}

case 3:

{

DISPLAY();

break;

}

case 4:

{

exit(0);

break;

}

default:

{

printf ("\n INVALID CHOICE");

}

}

}

while(choice!=4);

return 0;

}

void PUSH()

{

if(top>=n-1)

{

printf("\n\tOVERFLOW");

}

else

{

printf(" ENTER A VALUE TO BE PUSHED:");

scanf("%d",&x);

top++;

stack[top]=x;

}

}

void POP()

{

if(top<=-1)

{

printf("\n\t UNDERFLOW");

}

else

{

printf("\n THE POPPED ELEMENT IS %d",stack[top]);

top--;

}

}

void DISPLAY()

{

if(top>=0)

{

printf("\n THE ELEMENTS IN STACK \n");

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

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

}

else

{

printf("\n The STACK is empty");

}

}