#include<stdio.h>

#include<stdlib.h>

int x=1;

int top=-1;

typedef struct

{

int key;

}term;

term \*element;

void create()

{

element=(term\*)malloc(sizeof(element));

}

void stackfull()

{

x\*=2;

element=realloc(element,x\*sizeof(element));

}

int pop()

{

if (top==-1)

{

return -1;

}

else{

return element[top--].key;

}

}

void push(term item)

{

if (top>=(x-1))

{

stackfull();

element[++top]=item;

}

else

{

element[++top]=item;

}

}

void main()

{

create();

while(1)

{

int a;

printf("Enter the 1 to push, 2 to pop and 3 to display:\n");

scanf("%d",&a);

if (a==1)

{

term item;

printf("enter the item\n");

scanf("%d",&item.key);

push(item);

}

else if(a==2)

{

int n=pop();

if (n==-1)

{

printf("Stack Underflow\n");

}

else

{

printf("%d\n",n);

}

}

else{

if (top==-1)

{

printf("Stack Underflow(Nothing to Display!!)");

}

else{

int i;

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

{

printf("%d\t",element[i].key);

}

printf("\n");

}

}

int c;

printf("Enter 1 to continue and 0 to exit:\n");

scanf("%d",&c);

if (c==0)

{

printf("Thank you!!\n");

break;

}

}

}