Program 1:

#include <stdio.h>

#include <stdlib.h>

#define ssize 5

void push(int a[],int \*top,int ele)

{

if(\*top==ssize-1)

{

printf("stack overflow\n");

return;

}

(\*top)++;

a[\*top]=ele;

}

void pop(int a[],int \*top)

{

int ele;

if(\*top==-1)

{

printf("stack Under flow");

return;

}

ele= a[\*top];

(\*top)--;

printf("The element deleted%d\t",ele);

}

void display(int a[],int top)

{

int i;

if(top==-1)

{

printf("stack Under flow");

return;

}

printf("Stack contents are\n");

for(i=0;i<=top;i++)

{

printf("%d",a[i]);

}

}

int main()

{

int a[ssize];

int top=-1;

int ele;

int choice;

for(;;)

{

printf("press1:Push\n2:pop\n3:display4:exit\n");

printf("Enter your choice\n");

scanf("%d",&choice);

switch(choice)

{

case 1: printf("enter the ele to be inserted\n");

scanf("%d",&ele);

push(a,&top,ele);

break;

case 2: pop(a,&top);

break;

case 3: display(a,top);

break;

case 4: exit(0);

}

}

return 0;

}

Program 2:

#include <stdio.h>

#include <stdlib.h>

struct stack

{

int key;

};

typedef struct stack element;

element\* stackFull(element \*stack,int \*capacity)

{

printf("Wait stack is getting doubled\n");

stack=(element\*)realloc(stack,2\*(\*capacity)\*sizeof(element));

(\*capacity)=(\*capacity)\*2; //\*capacity=4

return stack;

}

element\* push(element \*stack,int \*top,int item,int \*capcity)

{

if(\*top>=(\*capcity)-1) {

stack=stackFull(stack,capcity);

}

(\*top)++;

(stack+\*top)->key=item;

return stack;

}

int pop(element \*stack,int \*top)

{

int item\_del;

if(\*top==-1)

{

printf("stack underflow\n");

return -1;

}

item\_del=((stack+\*top))->key;

(\*top)--;

return item\_del;

}

void display(element \*stack,int top)

{

int i;

if(top==-1)

{

printf("stack underflow\n");

return ;

}

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

{

printf("\t%d",(stack+i)->key);

}

}

void main()

{

int top=-1;

int capacity=1;

int item;

int choice;

int item\_deleted;

element \*stack;

stack=(element\*)malloc(sizeof(element)\*capacity);

if(stack==NULL)

{

printf(" Moemory not suff...\n");

exit(0);

}

for(;;)

{

printf("1:push 2:pop 3:display 4:exit\n");

printf("Enter your choice\n");

scanf("%d",&choice);

switch(choice)

{

case 1: printf("Enter the element to be inserted\n");

scanf("%d",&item);

//it should structure pointer

stack=push(stack,&top,item,&capacity);

break;

case 2: item\_deleted=pop(stack,&top);

if(item\_deleted!=-1)

{

printf("Deleted item %d",item\_deleted);

}

break;

case 3:display(stack,top);

break;

case 4:exit(0);

}

}

}

