**Design, Develop and Implement a menu driven Program in C for the following operations on STACK of Integers (Array Implementation of Stack with maximum size MAX)**

**a. Push an Element on to Stack b. Pop an Element from Stack**

**c. Demonstrate Overflow and Underflow situations on Stack**

**d. Display the status of Stack f. Exit.**

**Support the program with appropriate functions for each of the above operations**

#include<stdio.h>

**// Function to Delete item from stack**

int pop()

{

int ele;

if(top==-1)

{

printf("Stack underflow\n");

exit(0);

}

else

{

ele=stack[top];

printf("popped item is %d\n",ele);

--top;

sz--;

printf("Stack capacity decreased to %d \n",sz);

stack=(int \*)realloc(stack,sz\*sizeof(int));

}

}

#include<stdlib.h>

int \*stack, top=-1,sz=5;

**// Function to insert elements to stack**

void push(int ele)

{

if(top==sz-1)

{

printf("Stack overflow\n");

sz++;

printf("Stack size increased to %d\n",sz);

stack=(int\*)realloc(stack,sz\*sizeof(int));

}

top++;

stack[top] = ele;

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

}

**// Main Program**

void main()

{

int ch,item;

stack=(int \*)malloc(sz\*sizeof(int));

clrscr();

for(;;)

{

printf("Enter your choice 1.push 2.pop 3.Quit\n");

scanf("%d",&ch);

switch(ch)

{

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

scanf("%d",&item);

push(item);

break;

case 2:pop();

break;

case 3: exit(0);

}

}

}