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#include<stdio.h>
#include<stdlib.h>
#define size 5
int arr[size];
int top=-1;

int push(int x){
    if(top==size-1){
        printf("stack is full");
    }
    else{
        return arr[++top]=x;
    }
}

int pop(){
    if(top==-1){
        printf("stack is empty");
    }
    else{
        return arr[top--];
    }
}

int peek(){
    if(top==-1){
        printf("stack is empty");
    }
    else{
        return arr[top];
    }
}

void display(){
    for(int i=0;i<=top;i++){
        printf("%d\n",arr[i]);
    }
}

int main(){
    int n,x;

    while(1){
        printf("1.push\n2.pop\n3.peek\n4.display\n5.exit\n");
        printf("enter the operation:");
        scanf("%d",&n);
        switch(n){
            case 1:
                printf("enter the push element:");
                scanf("%d",&x);
                push(x);
                break;
            case 2:
                pop();
                break;
            case 3:

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        printf("%d",peek());
        break;
case 4:
    display();
    break;
case 5:
    printf("exited");
    exit(0);
    break;
default:
    printf("Invalid syntax please enter correct option");
    break;
}
}
```