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#include<stdio.h>
#define size 10
int top1=-1;
int top2=-1;
int stack1[size];
int stack2[size];
void push1(int ele)
{
    if(top1==size-1)
    {
        printf("Stack overflow\n");
    }
    else
    {
        top1++;
        stack1[top1]=ele;
    }
}
int pop1()
{
    if(top1==-1)
    {
        printf("Stack underflow\n");
        return -1;
    }
    else
    {
        int x=stack1[top1];
        top1--;
        return x;
    }
}
void display1()
{
    int i;
    if(top1==-1)
    {
        printf("Stack is empty\n");
    }
    else
    {
        for(i=top1;i>=0;i--)
        {
            printf("%d\n",stack1[i]);
        }
    }
}

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    }
}

void push2(int ele)
{
    if(top2==size-1)
    {
        printf("Stack overflow\n");
    }
    else
    {
        top2++;
        stack2[top2]=ele;
    }
}

int pop2()
{
    if(top2==-1)
    {
        printf("Stack underflow\n");
        return -1;
    }
    else
    {
        int x=stack2[top2];
        top2--;
        return x;
    }
}

void display2()
{
    int i;
    if(top2==-1)
    {
        printf("Stack is empty\n");
    }
    else
    {
        for(i=top2;i>=0;i--)
        {
            printf("%d\n",stack2[i]);
        }
    }
}

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void merged()
{
    int t1,t2,i;
    int s1[size],s2[size];
    t1=0;
    t2=-1;
    for(i=top2;i>=0;i--)
    {
        t2++;
        s2[t2]=stack2[i];
    }
    int mergedlist[size];
    t1=top1;
    i=0;
    while(t1>=0&& t2>=0)
    {
        mergedlist[i]=stack1[t1]+s2[t2];
        t1--;
        t2--;
        i++;
    }
    while(t1>=0)
    {
        mergedlist[i]=stack1[t1];
        t1--;
        i++;
    }
    while(t2>=0)
    {
        mergedlist[i]=s2[t2];
        t2--;
        i++;
    }
    printf("Merged list is : \n");
    for(int j=0;j<i;j++)
    {
        printf("%d\n",mergedlist[j]);
    }
}

int main()
{
    int x=1,ele;
    int i=0;
    printf("enter the elements of stack 1 : \n");

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while(x!=0)
{
    printf("\nEnter 1 for push\n");
    printf("Emter 2 for pop\n");
    printf("Enter 3 for display\n");
    printf("Enter 0 for exit\n");
    scanf("%d",&x);
    if(x==0)
    {
        break;
    }
    if(x==1)
    {
        printf("Enter the element : ");
        scanf("%d",&ele);
        push1(ele);
    }
    else if(x==2)
    {
        int popele=pop1();
        printf("The element popped out is : %d",popele);
    }
    else if(x==3)
    {
        printf("The stack is : \n");
        display1();
    }
}
x=1;
printf("enter the elements of stack 2 : \n");
while(x!=0)
{
    printf("\nEnter 1 for push\n");
    printf("Emter 2 for pop\n");
    printf("Enter 3 for display\n");
    printf("Enter 0 for exit\n");
    scanf("%d",&x);
    if(x==0)
    {
        break;
    }
    if(x==1)
    {
        printf("Enter the element : ");
        scanf("%d",&ele);

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        push2(ele);
    }
    else if(x==2)
    {
        int popele=pop2();
        printf("The element popped out is : %d",popele);
    }
    else if(x==3)
    {
        printf("The stack is : \n");
        display2();
    }
}
merged();
return 0;
}
```