

ds_it_1.cpp

```
1  #include<stdio.h>
2  #include<stdlib.h>
3  #include<process.h>
4  #define STACK_SIZE 20
5  int top=-1, top1=-1, top2=-1;
6  int s1[10], s2[10], s3[20], s4[20];
7  int item1, item2;
8  void push1()
9  {
10     if (top==STACK_SIZE-1){printf("stack overflow\n");
11         return;
12     }
13     top=top+1;
14     s1[top]=item1;
15 }
16 void push2()
17 {
18     if (top==STACK_SIZE-1){printf("stack overflow\n");
19         return;
20     }
21     top2=top2+1;
22     s2[top2]=item2;
23 }
24
25 int merge()
26 {
27     while (s1[top] != -1 || s2[top2] != -1)
28     {
29         if (s1[top] > s2[top2]) {
30             top1=top1+1;
31             s3[top1]=s1[top];
32             s1[top--];
33         }
34         else {
35             top1=top1+1;
36             s3[top1]=s2[top2];
37             s2[top2--];
38         }
39     }
40 }
```

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```
38 }
39 return s3[top1++];
40 }
41
42
43 }
44 void display()
45 { int i;
46 if (top1 == -1)
47 { printf(" Stack is empty \n");
48 return;
49 }
50 printf("contents of the stack\n");
51 for (i = top1; i >= 0; i--)
52 { printf("%d\n", s3[i]);
53 }
54 }
55 int main()
56 {
57 int n, m, j, k;
58 system("cls");
59 printf("enter the number of elements in stack1\n");
60 scanf("%d", &n);
61 printf("enter the item to be inserted in the 1st stack \n");
62 for (j = 0; j < n; j++) {
63     scanf("%d\n", &item1);
64     push1();
65 }
66 printf("enter the number of elements in stack2\n");
67 scanf("%d", &m);
68 printf("enter the item to be inserted in the 2nd stack \n");
69 for (k = 0; k < m; k++) {
70     scanf("%d\n", &item2);
71     push2();
72 }
73 merge();
74 display();
75 }
```

```
ds_l1_1.cpp
41 |
42 | }
43 | }
44 | void display()
45 | { int i;
46 | if (top1 == -1)
47 | { printf(" Stack is empty \n");
48 | return;
49 | }
50 | printf("contents of the stack\n");
51 | for (i = top1; i >= 0; i--)
52 | { printf("%d\n", s3[i]);
53 | }
54 | }
55 | int main()
56 | {
57 | int n, m, j, k;
58 | system("cls");
59 | printf("enter the number of elements in stack1\n");
60 | scanf("%d", &n);
61 | printf("enter the item to be inserted in the 1st stack \n");
62 | for (j = 0; j < n; j++) {
63 |     scanf("%d\n", &item1);
64 |     push1();
65 | }
66 | printf("enter the number of elements in stack2\n");
67 | scanf("%d", &m);
68 | printf("enter the item to be inserted in the 2nd stack \n");
69 | for (k = 0; k < m - 1; k++) {
70 |     scanf("%d\n", &item2);
71 |     push2();
72 | }
73 | merge();
74 | display();
75 |
76 | return 0;
77 | }
```

DS_Lab_Test_1 - [DS_Lab_Test_1.dev] - [Executing] - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

C:\Users\sohan\Desktop\ds lab test 1\DS_Lab_Test_1.exe

```
ds_lab_1.cpp
41 1
42 enter the number of elements in stack1
43 1
44 }
45 void
46 { enter the number of elements in stack2
47 { enter the item to be inserted in the 2nd stack
48 { p
49 { p
50 { p
51 { p
52 { p
53 { p
54 { p
55 { p
56 { p
57 { p
58 { p
59 { p
60 { p
61 { p
62 { p
63 { p
64 { p
65 { p
66 { p
67 { p
68 { p
69 { p
```

enter the number of elements in stack1
1
enter the item to be inserted in the 1st stack
2
enter the number of elements in stack2
1
enter the item to be inserted in the 2nd stack
1
contents of the stack
0
Process exited after 12.07 seconds with return value 0
Press any key to continue . . .

printf("enter the item to be inserted in the 2nd stack \n");
for (k=0; k<m-1; k++) {

Compilation results...

- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\sohan\Desktop\ds lab test 1\DS_Lab_Test_1.exe
- Output Size: 130.7109375 KiB
- Compilation Time: 0.30s

Line: 5 Col: 20 Sel: 0 Lines: 77 Length: 1587 Insert Done parsing in 0.032 seconds

Type here to search

16:09 09-11-2020