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1  #include <stdio.h>
2  #include <stdlib.h>
3  #define MAX 30
4  int stack[MAX], topx = -1, topy = MAX;
5  void pushx(int value)
6  {
7      if(topx == topy-1)
8          printf("\n The stack is Overflow");
9      else
10     {
11         topx+=1;
12         stack[topx] = value;
13     }
14 }
15 int popx()
16 {
17     int value;
18     if(topx == -1)
19     {
20         printf("\n The stack is Underflow");
21         value = -123;
22     }
23     else
24     {
25         value = stack[topx];
26         topx--;
27     }
28     return value;
29 }
30 void display_stackx()
31 {
32     int i;
33     if(topx == -1)
34         printf("\n Stack x is empty");
35     else
36     {
37         for(i = topx; i >= 0; i--)
38             printf("\t %d", stack[i]);
39     }
40 }
41 void pushy(int value)
42 {
43     if(topy-1 == topx)
44         printf("\n The stack is Overflow");
45     else
46     {
47         topy-=1;
48         stack[topy] = value;
49     }
50 }
51 int popy()
52 {
53     int value;
54     if(topy == MAX)
55     {
56         printf("\n The stack is Underflow");
57         value = -123;
58     }
59     else
60     {
61         value = stack[topy];
62         topy++;
63     }
64 }
65 void display_stacky()
66 {

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67  int i;
68  if(topy == MAX)
69  printf("\n Stack y is Empty");
70  else
71  {
72  for(i = topy; i < MAX;i++)
73  printf("\t %d",stack[i]);
74  }
75  }
76  int main()
77  {
78  int choice, value;
79  do
80  {
81  printf("\n -----Menu----- ");
82  printf("\n 1.Hey! PUSH an element into Stack x");
83  printf("\n 2.Hey! PUSH an element into Stack y");
84  printf("\n 3.Hey! POP an element from Stack x");
85  printf("\n 4.Hey! POP an element from Stack y");
86  printf("\n 5. Display the Stack x");
87  printf("\n 6. Display the Stack y");
88  printf("\n 7. Exit");
89  printf("\n Please Enter your choice");
90  scanf("%d",&choice);
91  switch(choice)
92  {
93  case 1:
94  printf("\n Enter the value to push on stack x :");
95  scanf("%d",&value);
96  pushx(value);
97  break;
98  case 2:
99  printf("\n Enter the value to push on stack y:");
100 scanf("%d", &value);
101 pushy(value);
102 break;
103 case 3:
104 if(value != -123)
105 printf("\n The value popped from Stack x = %d", value);
106 break;
107 case 4:
108 if(value != -123)
109 printf("\n The value popped from Stack y = %d",value);
110 break;
111 case 5:
112 printf("\n The contents of Stack x are :\n");
113 display_stackx();
114 break;
115 case 6:
116 printf("\n The contents of Stack y are :\n");
117 display_stacky();
118 break;
119 }
120 }
121 while(choice != 7);
122 return 0;
123 }

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