

```
#include<stdio.h>

#include<conio.h>

#define n 5

int stack[n];

int top=-1;

void push()
{
    int x;

    printf("Enter data\n");

    scanf("%d",&x);

    if(top==n-1)
    {
        printf("Stack overflow\n");
    }
    else
    {
        top++;

        stack[top]=x;
    }
}

void pop()
{
    int item;

    if(top== -1)
    {
        printf("Stack underflow\n");
    }
    else
    {
        item=stack[top];

        top--;
```

```

        printf("Element is %d\n",item);
    }
}

void peek()
{
    if(top== -1)
    {
        printf("Stack underflow\n");
    }
    else
    {
        printf("%d\n",stack[top]);
    }
}

void display()
{
    if(top== -1)
    {
        printf("Stack is empty\n");
    }
    else{
        printf("Stack elements are\n");
        for (int i=top;i>=0;i--)
        {
            printf(" Elements are %d\n",stack[i]);
        }
        printf("\n");
    }
}

void main()
{

```

```
int ch;

do
{
    printf("Enter choice 1.push 2.pop 3.peek 4.display 0.exit\n");
    scanf("%d",&ch);
    switch(ch)
    {
        case 1:push();
            break;
        case 2:pop();
            break;
        case 3:peek();
            break;
        case 4:display();
            break;
        case 0:printf("exit\n");
            break;
        default:printf("invalid choice\n") ;

    }
} while (ch!=0);

getch();

}
```

```
File Edit Selection View Go Run Terminal Help
C LAB1.c
C:\Users> BMSGCCSE > Desktop > 1BF24CS243 > C LAB1.c > @ peek()
1 #include<stdio.h>
2 #include<conio.h>
3 #define n 5
4 int stack[n];
5 int top=-1;
6 void push()
7 {
8     int x;
9     printf("Enter data\n");
10    scanf("%d",&x);
11    if(top==n-1)
12    {
13        printf("Stack overflow\n");
14    }
15    else
16    {
17        top++;
18        stack[top]=x;
19    }
20 }
21 void pop()
22 {
23     int item;
24     if(top==1)
25     {
26         printf("Stack underflow\n");
27     }
28     else
29     {
30         item=stack[top];
31         top--;
32         printf("Element is %d\n",item);
33     }
34 }
35 void peek()
36 {
37     if(top==1)
38     {
39         printf("Stack underflow\n");
40     }
41     else
42     {
43         printf("TOP element is %d\n",stack[top]);
44     }
45 }
```

```
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C LAB1.c
C:\Users> BMSGCCSE > Desktop > 1BF24CS243 > C LAB1.c > @ peek()
21 void pop()
22 {
23     int item;
24     if(top==1)
25     {
26         printf("Stack underflow\n");
27     }
28     else
29     {
30         item=stack[top];
31         top--;
32         printf("Element is %d\n",item);
33     }
34 }
35 void peek()
36 {
37     if(top==1)
38     {
39         printf("Stack underflow\n");
40     }
41     else
42     {
43         printf("TOP element is %d\n",stack[top]);
44     }
45 }
46 void display()
47 {
48     if(top==1)
49     {
50         printf("Stack is empty\n");
51     }
52     else{
53         printf("Stack elements are\n");
54         for (int i=top;i>=0;i--)
55         {
56             printf(" Elements are %d\n",stack[i]);
57         }
58         printf("\n");
59     }
60 }
61 void main()
62 {
63     int ch;
64     do
65     {
66         printf("Enter choice 1.push 2.pop 3.peek 4.display 0.exit\n");
67         scanf("%d",&ch);
68         switch(ch)
69         {
70             case 1:push();
71                 break;
72             case 2:pop();
73                 break;
74             case 3:peek();
75                 break;
76             case 4:display();
77                 break;
78             case 0:printf("exit\n");
79                 break;
80             default:printf("Invalid choice\n");
81                 break;
82         }
83     } while (ch!=0);
84     getch();
85 }
```

```
File Edit Selection View Go Run Terminal Help
C LAB1.c
C:\Users> BMSGCCSE > Desktop > 1BF24CS243 > C LAB1.c > @ peek()
46 void display()
47 {
48     if(top==1)
49     {
50         printf("Stack is empty\n");
51     }
52     else{
53         printf("Stack elements are\n");
54         for (int i=top;i>=0;i--)
55         {
56             printf(" Elements are %d\n",stack[i]);
57         }
58         printf("\n");
59     }
60 }
61 void main()
62 {
63     int ch;
64     do
65     {
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70             case 1:push();
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73                 break;
74             case 3:peek();
75                 break;
76             case 4:display();
77                 break;
78             case 0:printf("exit\n");
79                 break;
80             default:printf("Invalid choice\n");
81                 break;
82         }
83     } while (ch!=0);
84     getch();
85 }
```

```
File Edit Selection View Go Run Terminal Help
C:\Users> BMSCECSE > Desktop > 1BF24CS243 > C:\LAB1c > peek0

21 void pop()
22 {
    1
    Enter data
    3
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    1
    Enter data
    2
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    3
    Enter data
    1
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    4
    Enter data
    1
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    5
    Enter data
    3
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    6
    Stack overflow
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    3
    5
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    4
    Stack elements are
    Elements are 5
    Elements are 4
    Elements are 3
    Elements are 2
    Elements are 1
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 5
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 4
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 3
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
```

```
File Edit Selection View Go Run Terminal Help
C:\Users> BMSCECSE > Desktop > 1BF24CS243 > C:\LAB1c > peek0

21 void pop()
22 {
    Enter data
    3
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    1
    Enter data
    4
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    1
    Enter data
    5
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    1
    Enter data
    6
    Stack overflow
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    3
    5
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    4
    Stack elements are
    Elements are 5
    Elements are 4
    Elements are 3
    Elements are 2
    Elements are 1
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 5
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 4
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 3
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 2
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Element is 1
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    2
    Stack underflow
    Enter choice 1.push 2.pop 3.peak 4.display 0.exit
    0
    exit
```