

Activity-5

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Q. Write a program to perform the operations on linked stack.

Code:

```
#include <stdio.h>
#include <stdlib.h>
struct stack
{
    int data;
    struct stack *next;
};
typedef struct stack node;
int t = -1;
node *top;
node *temp;
void push ()
{
    if (t == -1)
    {
        top = (node *) (malloc (sizeof (node)));
        printf ("\nEnter input: ");
        scanf ("%d", &top->data);
        top->next = NULL;
        t++;
    }
    else
    {
        temp = (node *) (malloc (sizeof (node)));
        temp->next = top;
        top = temp;
        printf ("\nEnter number input: ");
        scanf ("%d", &temp->data);
        t++;
    }
}
```

```

}
}
void pop ()
{
if (t < 0)
{
printf ("\nStack is empty");
return;
}
printf ("\nTop element is: %d", top->data);
temp = top;
top = top->next;
free (temp);
t--;
}
int main ()
{
int ch;
do
{
printf("\nEnter your choice:\n1) Push element.\n2) Pop element.\n3)
Exit\n");
scanf ("%d", &ch);
switch (ch)
{
case 1:
push ();
break;
case 2:
pop ();
break;
case 3:
printf ("\nBye");
break;
default:
printf ("\nWrong choice");
}
}

```

```

}
while (ch != 3);
return 0;
}

```

Output:

The screenshot shows the OnlineGDB online compiler interface. The code editor contains the following C code:

```

38
39 void pop()
40 {
41     if(t==0)
42     {
43         printf("\nStack is empty");
44         return;
45     }
46     printf("\nTop element is: %d",top->data);
47     temp = top;
48     top = top->next;
49     free(temp);
50     t--;
51 }
52 int main()
53 {
54     int ch;
55     do
56     {
57         printf("\nEnter your choice:\n1) Push element.\n2) Pop element.\n3) Exit\n");
58         scanf("%d",&ch);
59         switch(ch)
60         {
61             case 1:
62                 push();

```

The output window shows the following text:

```

Enter your choice:
1) Push element.
2) Pop element.
3) Exit
Enter input: 45

```