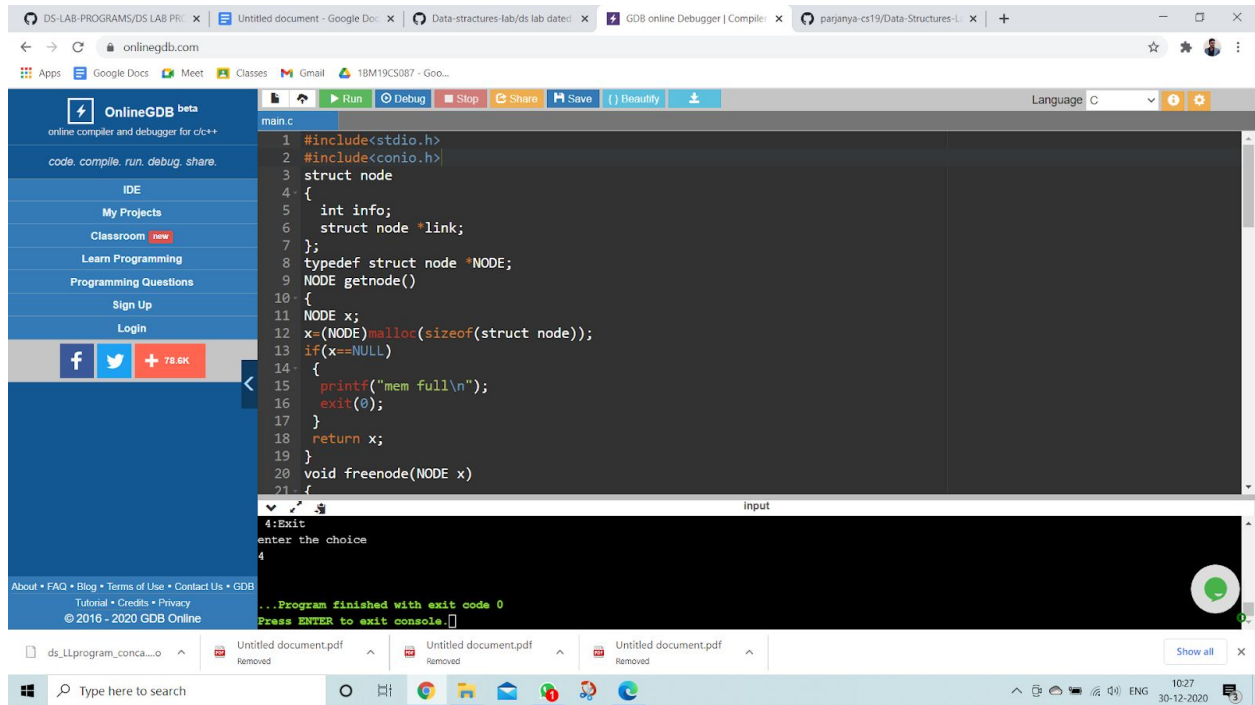


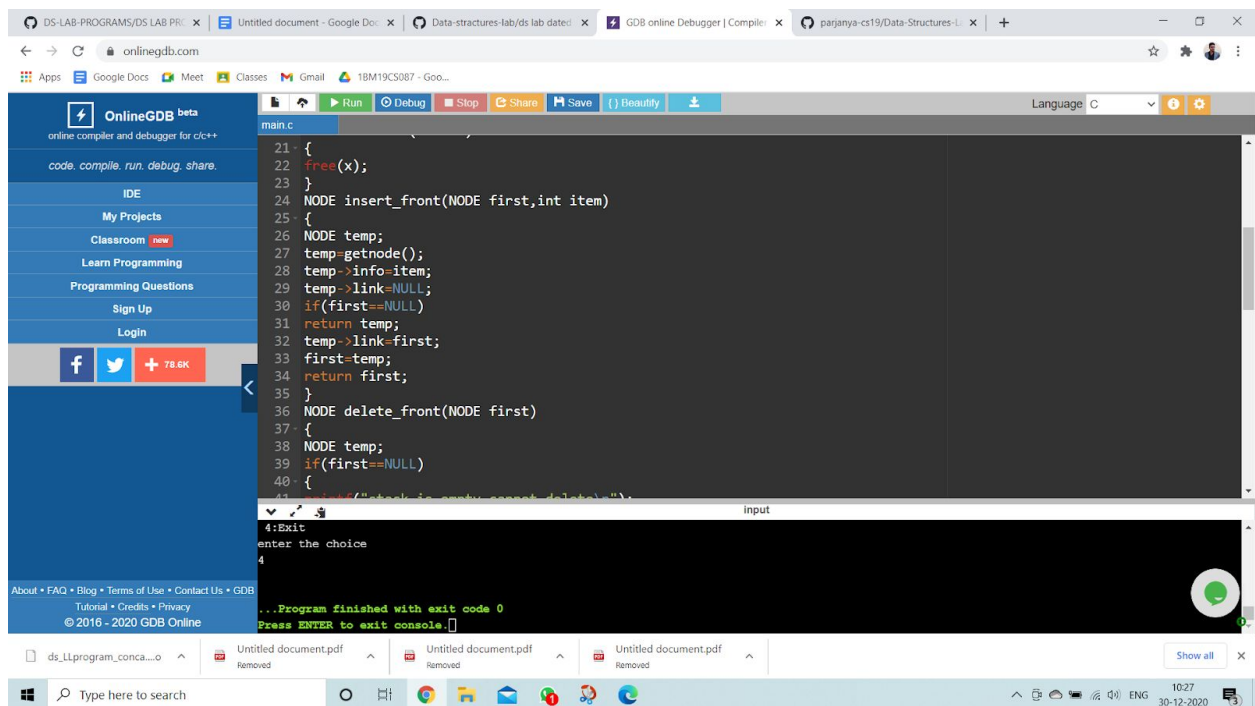
## DS LAB PROGRAM 8 STACK USING LINKED LIST EXECUTION:-



The screenshot shows the OnlineGDB interface with a C program for a stack using a linked list. The program includes headers, defines a node structure, and implements a getnode function. The console shows the program finished with exit code 0.

```
main.c
1 #include<stdio.h>
2 #include<conio.h>
3 struct node
4 {
5     int info;
6     struct node *link;
7 };
8 typedef struct node *NODE;
9 NODE getnode()
10 {
11     NODE x;
12     x=(NODE)malloc(sizeof(struct node));
13     if(x==NULL)
14     {
15         printf("mem full\n");
16         exit(0);
17     }
18     return x;
19 }
20 void freenode(NODE x)
21 {
```

4:Exit  
enter the choice  
4  
...Program finished with exit code 0  
Press ENTER to exit console.



The screenshot shows the OnlineGDB interface with a C program for a stack using a linked list. The program includes headers, defines a node structure, and implements functions for inserting and deleting nodes. The console shows the program finished with exit code 0.

```
main.c
21 {
22     free(x);
23 }
24 NODE insert_front(NODE first,int item)
25 {
26     NODE temp;
27     temp=getnode();
28     temp->info=item;
29     temp->link=NULL;
30     if(first==NULL)
31     return temp;
32     temp->link=first;
33     first=temp;
34     return first;
35 }
36 NODE delete_front(NODE first)
37 {
38     NODE temp;
39     if(first==NULL)
40     {
41         printf("list is empty\n");
42         return first;
43     }
44     first=first->link;
45     free(temp);
46     return first;
47 }
```

4:Exit  
enter the choice  
4  
...Program finished with exit code 0  
Press ENTER to exit console.

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main.c

```
40 {
41     printf("stack is empty cannot delete\n");
42     return first;
43 }
44 temp=first;
45 temp=temp->link;
46 printf("item deleted at front-end is=%d\n",first->info);
47 free(first);
48 return temp;
49 }
50 void display(NODE first)
51 {
52     NODE temp;
53     if(first==NULL)
54         printf("stack empty cannot display items\n");
55     for(temp=first;temp!=NULL;temp=temp->link)
56     {
57         printf("%d\n",temp->info);
58     }
59 }
60 void main()
```

Input

```
4:Exit
enter the choice
4
...Program finished with exit code 0
Press ENTER to exit console.
```

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The screenshot displays the OnlineGDB web interface. On the left is a sidebar with navigation links: IDE, My Projects, Classroom, Learn Programming, Programming Questions, Sign Up, and Login. The main area shows a C program in a file named 'main.c'. The code is as follows:

```
60 void main()
61 {
62     int item,choice,pos;
63     NODE first=NULL;
64
65     for(;;)
66     {
67         printf("\n 1:Insert_front\n 2:Delete_front\n 3:Display_list\n 4:Exit\n");
68         printf("enter the choice\n");
69         scanf("%d",&choice);
70         switch(choice)
71         {
72             case 1:printf("enter the item at front-end\n");
73                     scanf("%d",&item);
74                     first=insert_front(first,item);
75                     break;
76             case 2:first=delete_front(first);
77                     break;
78             case 3:display(first);
79                     break;
80             default:exit(0);
81                     break;
82         }
83     }
84 }
```

The console output shows the program running and finishing with exit code 0. The input field shows '4:Exit' and 'enter the choice'.

OUTPUT:-

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```
main.c
64
65 for(;;)
66 {
67     printf("\n 1:Insert_front\n 2:Delete_front\n 3:Display_list\n 4:Exit\n");
68 }
```

Input

```
1:Insert_front
2:Delete_front
3:Display_list
4:Exit
enter the choice
1
enter the item at front-end
10
1:Insert_front
2:Delete_front
3:Display_list
4:Exit
enter the choice
1
enter the item at front-end
20
1:Insert_front
2:Delete_front
3:Display_list
4:Exit
enter the choice
1
enter the item at front-end
```

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```
main.c
64
65 for(;;)
66 {
67     printf("\n 1:Insert_front\n 2:Delete_front\n 3:Display_list\n 4:Exit\n");
68 }
```

Input

```
enter the item at front-end
30
1:Insert_front
2:Delete_front
3:Display_list
4:Exit
enter the choice
3
30
20
10
1:Insert_front
2:Delete_front
3:Display_list
4:Exit
enter the choice
2
item deleted at front-end is=30
1:Insert_front
2:Delete_front
3:Display_list
4:Exit
```

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64
65 for(;;)
66 {
67     printf("\n 1:Insert_front\n 2:Delete_front\n 3:Display_list\n 4:Exit\n");
68 }
```

Input

4:Exit  
enter the choice  
3  
20  
10  
1:Insert\_front  
2:Delete\_front  
3:Display\_list  
4:Exit  
enter the choice  
1  
enter the item at front-end  
40  
1:Insert\_front  
2:Delete\_front  
3:Display\_list  
4:Exit  
enter the choice  
3  
40  
20  
10

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main.c
64
65 for(;;)
66 {
67     printf("\n 1:Insert_front\n 2:Delete_front\n 3:Display_list\n 4:Exit\n");
68 }
```

Input

enter the choice  
1  
enter the item at front-end  
40  
1:Insert\_front  
2:Delete\_front  
3:Display\_list  
4:Exit  
enter the choice  
3  
40  
20  
10  
1:Insert\_front  
2:Delete\_front  
3:Display\_list  
4:Exit  
enter the choice  
4

...Program finished with exit code 0  
Press ENTER to exit console.

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