main.c

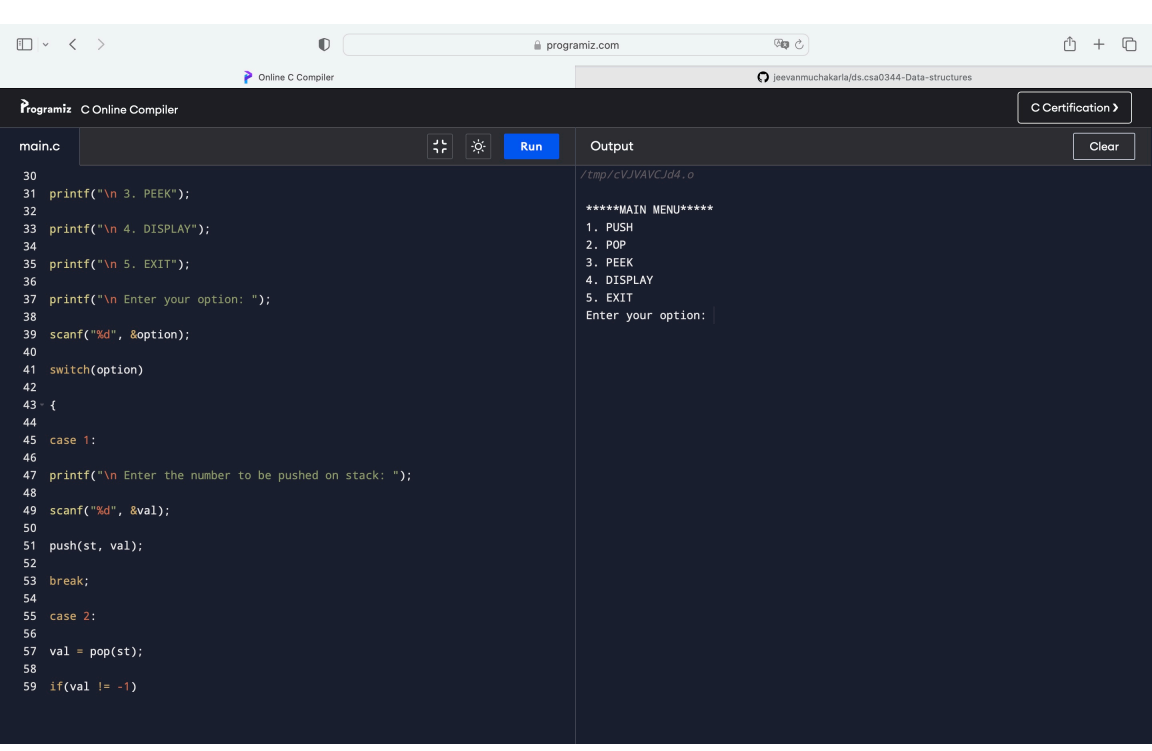
Run

```c
#192210211
#include <stdio.h>

#include <stdlib.h>

#define MAX 3
int st[MAX], top=-1;

void push(int st[], int val);

int pop(int st[]);

int peek(int st[]);

void display(int st[]);

int main(int argc, char *argv[]) {

int val, option;

do

{

printf("\n *****MAIN MENU*****");

printf("\n 1. PUSH");

printf("\n 2. POP");

```

Output

Clear

```
/tmp/cVJVAVCJd4.o

*****MAIN MENU*****
1. PUSH
2. POP
3. PEEK
4. DISPLAY
5. EXIT
Enter your option:
```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Online C Compiler
jeevanmuchakarla/ds.csa0344-Data-structures
Programiz C Online Compiler
C Certification
main.c
Run
Output
Clear
30
31 printf("\n 3. PEEK");
32
33 printf("\n 4. DISPLAY");
34
35 printf("\n 5. EXIT");
36
37 printf("\n Enter your option: ");
38
39 scanf("%d", &option);
40
41 switch(option)
42
43 {
44
45 case 1:
46
47 printf("\n Enter the number to be pushed on stack: ");
48
49 scanf("%d", &val);
50
51 push(st, val);
52
53 break;
54
55 case 2:
56
57 val = pop(st);
58
59 if(val != -1)
/tmp/cVJVAVCJd4.o
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main.c

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```
59  if(val != -1)
60
61  printf("\n The value deleted from stack is: %d", val);
62
63  break;
64
65  case 3:
66
67  val = peek(st);
68
69  if(val != -1)
70
71  printf("\n The value stored at top of stack is: %d", val);
72
73  break;
74
75  case 4:
76
77  display(st);
78
79  break;
80
81  }
82
83  }while(option != 5);
84
85  return 0;
86
87  }
```

Output

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```
}
void push(int st[], int val)

{

if(top == MAX-1)

{

printf("\n STACK OVERFLOW");

}

else
{

top++;

st[top] = val;

}

}

int pop(int st[])

{

int val;

```

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```
116
117 if(top == -1)
118
119 {
120
121 printf("\n STACK UNDERFLOW");
122
123 return -1;
124
125 }
126
127 else
128
129 {
130
131 val = st[top];
132
133 top--;
134
135 return val;
136
137 }
138
139 }
140
141 void display(int st[])
142
143 {
144
145 int i;
```

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Run

```
int i;

if(top == -1)

{printf("\n STACK IS EMPTY");}

else

{

for(i=top;i>=0;i--)

printf("\n %d",st[i]);

printf("\n");
}

}

int peek(int st[])

{

if(top == -1)

{

printf("\n STACK IS EMPTY");
```

Output

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```

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Run

```
{

for(i=top;i>=0;i--)

printf("\n %d",st[i]);

printf("\n");
}

}

int peek(int st[])

{

if(top == -1)

{

printf("\n STACK IS EMPTY");

return -1;

}

else

return (st[top]);

}
```

Output

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```
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