

Output

Main Menu

1. Push
2. Pop
3. Display
4. Peep
5. Exit

Enter your choice : 1

Enter element to be pushed on stack:100

Main Menu

1. push
2. pop
3. display
4. peep
5. Exit

Enter your choice : 1

Enter element to be pushed on stack:200

Main menu

1. push
2. pop
3. display
4. peep
5. Exit

Program No : 5

Program to implement stack using array

Program

```
#include <stdio.h>
#include <conio.h>
#include <process.h>
#define MAX 10
int stack[MAX], top = -1;
void push(int stack[], int val);
int pop(int stack[]);
int peek(int stack[]);
void display(int stack[]);
int main()
{
    int choice, val;
    clrscr();
    while(1)
    {
        printf("In Main Menu");
        printf("\n 1. Push");
        printf("\n 2. Pop");
        printf("\n 3. Display");
        printf("\n 4. Peep");
        printf("\n 5. Exit");
        printf("\n Enter your choice : ");
        scanf("%d", &choice);
        if(choice == 1)
            push(stack, val);
        else if(choice == 2)
            pop(stack);
        else if(choice == 3)
            display(stack);
        else if(choice == 4)
            peek(stack);
        else if(choice == 5)
            exit(0);
        else
            printf("Invalid choice");
    }
}
```

Enter your choice : 3

Element in stack :

200

100

Main menu

1. push

2. pop

3. display

4. peep

5. Exit

Enter your choice : 4

The value stored on top of stack

is 200

Main menu

1. push

2. pop

3. display

4. peep

5. Exit

Enter your choice : 1

Enter element to be push on stack

scanf ("%d", &choice);

switch (choice)

{

case 1 : Push (stack, val);

break;

case 2 : pop (stack);

break;

case 3 : display (stack);

break;

case 4 : peep (stack);

break;

case 5 : exit (1);

{

{

{

{

void push (int stack[], int val)

{

if (top == MAX - 1)

{

else

{

printf ("In Enter the element to be pushed on to

the stack");

{

scanf ("%d", &val);

Main menu

1. push
2. pop
3. display
4. peek
5. exit

Enter your choice : 2

Element popped from stack : 300

: 300

```
top++;
stack[top] = val;
{}
```

```
int pop()
{
    int val;
    if (top == -1)
        { }
```

```
printf("In Stack Underflow");
return -1;
{ }
```

```
else
{ }
```

```
printf("Element popped from stack: %d",
stack[top]);
top--;
return val;
{ }
```

```
void display()
```

```
{ }
int i;
if (top == -1)
    printf("No element in stack");
else
{ }
```

{

printf ("In Element in stack:\n");

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

printf ("%d", stack[i]);

{  
}{

int peek (int stack[])

{

if (top == -1)

{  
}.

printf ("In stack is empty");

return -1;

{

else

printf ("The value stored on the top of the  
stack is : %d", stack [top]);

return (stack [top]);

{

Main menu

1 push  
2 pop  
3 displayn4 peep  
5 exit  
Enter your choice:1

Enter element to be pushed on stack:100

Main menu

1 push  
2 pop  
3 displayn4 peep  
5 exit  
Enter your choice:1

Enter element to be pushed on stack:200

Main menu

1 push  
2 pop  
3 displayn4 peep  
5 exit  
Enter your choice:

```
3 display  
4 peep  
5 exit  
Enter your choice:3
```

Elements in stack:

```
200  
100  
Main menu  
1 push  
2 pop  
3 display  
4 peep  
5 exit  
Enter your choice:4
```

The value stored on top of stack is200

```
Main menu  
1 push  
2 pop  
3 display  
4 peep  
5 exit  
Enter your choice:
```

```
1 push  
2 pop  
3 display  
4 peep  
5 exit
```

Enter your choice:1

Enter element to be pushed on stack:300

```
Main menu  
1 push  
2 pop  
3 display  
4 peep  
5 exit
```

Enter your choice:2

Element popped from stack: 300

```
Main menu  
1 push  
2 pop  
3 display  
4 peep  
5 exit
```

Enter your choice:\_