

Program 12:

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

```
#include<stdlib.h>
```

```
#define Size 4
```

```
int Top=-1, inp_array[Size];
```

```
void Push();
```

```
void Pop();
```

```
void show();
```

```
int main()
```

```
{
```

```
    int choice;
```

```
    while(1)
```

```
    {
```

```
        printf("\nOperations performed by Stack");
```

```
        printf("\n1.Push the element\n2.Pop the element\n3.Show\n4.End");
```

```
        printf("\n\nEnter the choice:");
```

```
        scanf("%d",&choice);
```

```
        switch(choice)
```

```
        {
```

```
            case 1: Push();
```

```
                    break;
```

```
            case 2: Pop();
```

```

                                break;

                        case 3: show();

                                break;

                        case 4: exit(0);


                                default: printf("\nInvalid choice!!");

                                }

                                }

                                }

void Push()
{
        int x;

        if(Top==Size-1)
        {
                printf("\nOverflow!!");

        }
        else
        {
                printf("\nEnter element to be inserted to the stack:");

                scanf("%d",&x);

                Top=Top+1;

                inp_array[Top]=x;

        }

}

void Pop()
{

```

```

    if(Top==-1)
    {
        printf("\nUnderflow!!");
    }
    else
    {
        printf("\nPopped element: %d",inp_array[Top]);
        Top=Top-1;
    }
}

```

```

void show()
{

```

```

    if(Top==-1)
    {
        printf("\nUnderflow!!");
    }
    else
    {
        printf("\nElements present in the stack: \n");
        for(int i=Top;i>=0;--i)
            printf("%d\n",inp_array[i]);
    }
}

```

Output:

Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice:2

Underflow!!

Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice:2

Underflow!!

Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice: