

CODE:

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

```
int top=-1;
int stack[50];
int max=50;
//to check whether the stack is full or not//
```

```
bool isFull(){
    if(top==max-1){

        return true;}

```

```
else{

    return false;}

```

```
}
```

```
//to check whether the function is empty or not
```

```
bool isEmpty()
```

```
{
    if(top==-1){
        return true;

```

```

    }

```

```
else{
    return false;

```

```

    }

```

```
}
```

```
//to push an element into the stack
```

```
void push(int data){
```

```
    if(!isFull()){
        top++;
        stack[top]=data;

```

```

    }

```

```
else{
    printf("Cannot insert data,the stack is full\n");

```

```

}
```

```
}
```

```
//to remove an element from the stack
```

```
void pop()
```

```
{  
    if(top<=-1)  
    {  
        printf("\n\t Stack is under flow");  
    }  
    else  
    {  
        printf("\n THE POPPED ELEMENTS IS: %d\n",stack[top]);  
        top--;  
    }  
}
```

```
//to see the top element
```

```
int peek(){  
    return (stack[top]);
```

```
}
```

```
//to display the entire stack
```

```
void display(){
```

```
    int i;  
    if(isEmpty())  
    {  
        printf("The stack is empty,cant diplay anything ");  
    }
```

```
    else{  
        printf("The elements of stack are:");  
        for(i=top;i>=0;i--){  
            printf("%d\t",stack[i]);  
        }  
    }
```

```
}
```

```
//main function
```

```
void main(){
```

```

int optn;
while(optn!=5){
    printf("\nPLEASE ENTER THE OPERATION YOU WANT TO
PERFORM\n1.PUSH\n2.POP\n3.PEAK\n4.DISPLAY\n5.EXIT\nChoice:");
    scanf("%d",&optn);

    switch(optn){
        case 1:printf("PLEASE ENTER THE ELEMENT YOU WANT TO PUSH:");
        int num;

        scanf("%d",&num);
        push(num);
        break;
        case 2:
        pop();
        break;
        case 3:
        printf("%d", peek());
        break;
        case 4:
        display();
        break;

    }
}
}

```

OUTPUT:

PLEASE ENTER THE OPERATION YOU WANT TO PERFORM

1.PUSH

2.POP

3.PEAK

4.DISPLAY

5.EXIT

Choice:1

PLEASE ENTER THE ELEMENT YOU WANT TO PUSH:40

PLEASE ENTER THE OPERATION YOU WANT TO PERFORM

1.PUSH

2.POP

3.PEAK

4.DISPLAY

5.EXIT

Choice:1

PLEASE ENTER THE ELEMENT YOU WANT TO PUSH:50

PLEASE ENTER THE OPERATION YOU WANT TO PERFORM

1.PUSH

2.POP

3.PEAK

4.DISPLAY

5.EXIT

Choice:1

PLEASE ENTER THE ELEMENT YOU WANT TO PUSH:60

PLEASE ENTER THE OPERATION YOU WANT TO PERFORM

1.PUSH

2.POP

3.PEAK

4.DISPLAY

5.EXIT

Choice:4

The elements of stack are:60 50 40

PLEASE ENTER THE OPERATION YOU WANT TO PERFORM

1.PUSH

2.POP

3.PEAK

4.DISPLAY

5.EXIT

Choice:2

THE POPPED ELEMENTS IS: 60

PLEASE ENTER THE OPERATION YOU WANT TO PERFORM

1.PUSH

2.POP

3.PEAK

4.DISPLAY

5.EXIT

Choice:4

The elements of stack are:50 40

PLEASE ENTER THE OPERATION YOU WANT TO PERFORM

1.PUSH

2.POP

3.PEAK

4.DISPLAY

5.EXIT

Choice:5

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