SOURCE CODE: STACK USING ARRAY:

```
#include<stdio.h>
#include<conio.h>
#define size 3
int top=-1;
void push(int stk[],int val);
int pop(int stk[]);
void display(int stk[]);
int peak(int stk[]);
void main()
{
        int stack[10],value,ch,i;
        clrscr();
        do
        {
                printf("\n**********Main Menu**********\n");
                printf("1-Push\n2-Pop\n3-Display\n4-
Peep\n**************************************\n");
                printf("Enter your choice\n");
                scanf("%d",&ch);
                switch(ch)
                {
                        case 1:
                                printf("Enter the number to be pushed to stack\n");
                                scanf("%d",&value);
                                push(stack,value);
                                break;
                        case 2:
                                value=pop(stack);
                                printf("Delete item=%d\n",value);
                                break;
```

```
                        case 3:
                                display(stack);
                                break;
                        case 4:
                                value=peak(stack);
                                printf("Value at the top of stack= %d",value);
                                break;
                        default:
                                printf("Invalid Choice");
                }
        }while(ch<=4&&ch>=1);
        getch();
}
void push(int stk[],int val)
{
        if(top==size-1)
        {
                printf("Stack is full\n");
                return;
        }
        else
        {
                top++;
                stk[top]=val;
        }
}
int pop(int stk[])
{
        int val;
        if(top==-1)
        {
```

```
                printf("The stack is empty\n");
                return -1;
        }
        else
        {
                val=stk[top];
                top--;
                return val;
        }
}
void display(int stk[])
{
        int i;
        if(size==-1)
        {
                printf("Stack is empty\n");
                return;
        }
        else
        {
                for(i=top;i>=0;i--)
                {
                        printf("%d\t",stk[i]);
                }
        }
}
int peak(int stk[])
{
        int i;
        if(top==-1)
        {
```

```
        printf("Stack is empty\n");
        return -1;
    }
    else
        return (stk[top]);
}
```

OUTPUT:

```
**********Main Menu**********
1-Push
2-Pop
3-Display
4-Peep
****************************************
Enter your choice
```

```
2
Delete item=30

**********Main Menu**********
1-Push
2-Pop
3-Display
4-Peep
****************************************
Enter your choice
3
20      10
**********Main Menu**********
1-Push
2-Pop
3-Display
4-Peep
****************************************
Enter your choice
```

```
3
20      10
**********Main Menu**********
1-Push
2-Pop
3-Display
4-Peep
****************************************
Enter your choice
4
Value at the top of stack= 20
**********Main Menu**********
1-Push
2-Pop
3-Display
4-Peep
****************************************
Enter your choice
5
Invalid Choice
```