end... C Stop ■

main.c

```c
#include <stdio.h>
#include <stdlib.h>
#define MAX 10
int top=-1,stack[MAX];
void push();
void pop();
void display();

int main()
{
  int ch;
  while(1)
  {
    printf("\n**STACK MENU**");
    printf("\n\n1.PUSH\n2.POP\n3.DISPLAY\n4.EXIT");
    printf("\n\nENTER YOUR CHOICE(1-4):");
    scanf("%d",&ch);

    switch(ch)
    {
     case 1:push();
        break;

     case 2: pop();
        break;
     case 3: display();
        break;
     case 4: exit(0);
     default: printf("\nWrong choice");
     }
     }
     return 0;
     }
     void push()
     {
      int val;
     if(top==MAX-1)
     { printf("\nSTACK IS FULL");
     }
     else
     { printf("\n ENTER ELEMENTS TO PUSH:");
     scanf("%d",&val);
     top=top+1;
     stack[top]=val;
     }
```

main.c

```
return 0;
}
void push()
{
 int val;
if(top==MAX-1)
{ printf("\nSTACK IS FULL");
}
else
{ printf("\n ENTER ELEMENTS TO PUSH:");
scanf("%d",&val);
top=top+1;
stack[top]=val;
}
}
void pop()
{
 if(top==-1)
{ printf("\nSTACK IS EMPTY");
 }
 else
 { printf("\nDELETED ELEMENT IS %d",stack[top]);
 top=top-1;
 }
 }
 void display()
 { int i;
 if(top==-1)
 { printf("\n STACK IS EMPTY");
 }
 else
{ printf("\n STACK IS...");
 for(i=top;i>=0;--i)
 printf("%d\n",stack[i]);
 }
}
```

```
clang-7 -pthread -lm -o main main.c
./main

**STACK MENU**

1.PUSH
2.POP
3.DISPLAY
4.EXIT

ENTER YOUR CHOICE(1-4):1

 ENTER ELEMENTS TO PUSH:3

**STACK MENU**

1.PUSH
2.POP
3.DISPLAY
4.EXIT

ENTER YOUR CHOICE(1-4):1

 ENTER ELEMENTS TO PUSH:10

**STACK MENU**

1.PUSH
2.POP
3.DISPLAY
4.EXIT

ENTER YOUR CHOICE(1-4):3

 STACK IS...10
3

**STACK MENU**

1.PUSH
2.POP
3.DISPLAY
4.EXIT

ENTER YOUR CHOICE(1-4):
```

S.R.POOJA (CSE)
1BM19CS135
DS LAB

Date / /
Page
SPLASH

→ WAP to simulate the working of stack using array with the following:

a) Push
b) Pop
c) Display

The program should print appropriate messages for stack overflow, stack underflow.

```
#include<stdio.h>
#include<stdlib.h>
#define MAX10
int top = -1, stack[MAX];
void push();
void pop();
void display();
int main()
{
int ch;
while(1)
{
printf("\n** STACK MENU**");
printf("\n\n1. PUSH \n2. POP\n 3. DISPLAY\n4. EXIT");
printf("\n\nENTER YOUR CHOICE(1-4): ");
scanf("%d", &ch);
switch(ch)
{
case 1: push();
break;
case 2: pop();
break;
case 3: display();
break;
case 4: exit(0);
```

```
default : printf ("\n Wrong choice ");
}
}
return (0);
}
void push()
{
int val;
if (top == MAX-1)
{
printf ("\n STACK IS FULL");
}
else
{
printf ("\n ENTER ELEMENTS TO PUSH:");
scanf ("%d", &val);
top = top+1;
stack[top] = val;
}
}
void pop()
{
if (top == -1)
{
printf ("\n STACK IS EMPTY");
}
else
{
printf ("\n DELETED ELEMENT IS %d", stack[top]);
top = top - 1;
}
}
void display()
```

S.R.POOJA
1BM19CS135 (CSE)
DS - LAB

Date
Page

```
{
int i;
if (top==-1)
{
printf ("\n STACK IS EMPTY");
}

else
{
printf ("\n STACK IS....");
 for (i=top; i>=0;--i)
printf ("%d\n", stack[i]);
}
}
```