```
//Program to simulate the working of stack using an array with the push,pull and display functions-
#include <stdio.h>
#include <stdlib.h>
#define N 5
int stack[N];
int top=-1;

void main()
{
	int choice;
	do
	{
	printf("\nMenu\n");
	printf("1.Push 2.Pop 3. Display 4.Exit\n");
	printf("Enter your choice\n");
	scanf("%d",&choice);

	switch (choice)
	{
	case 1:
		push();
		break;
	case 2:
		pop();
		break;
```

```
        case 3:
                display();
                break;
        case 4:
                exit(0);
                break;
        default:
                printf("Invalid input");
        }
        }while(choice!=4);
}
void push()
{
        int x;
        if(top==(N-1))
        {
                printf("Stack is full,Overflow condition\n");
                return;
        }
        else
        {
                printf("Enter element to be inserted\n");
                scanf("%d",&x);
                top++;
                stack[top]=x;
```

```
            printf("Element inserted is=%d\n",stack[top]);
        }
}

void pop()
{
    int item;
    if (top==-1)
    {
            printf("Stack is empty ,underflow condition\n");
            return;
    }
    else
    {
          item=stack[top];
          top--;
          printf("Element deleted is =%d",item);
    }
}

void display()
{
      printf("Elements in the stack are:\n");
      for (int i=top;i>=0;i--)
```

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



}
```

OUTPUT:

```
Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
1
Enter element to be inserted
10
Element inserted is=10

Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
1
Enter element to be inserted
20
Element inserted is=20

Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
1
Enter element to be inserted
30
Element inserted is=30

Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
1
Enter element to be inserted
40
Element inserted is=40

Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
1
Enter element to be inserted
50
Element inserted is=50

Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
1
Stack is full,Overflow condition

Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
3
Elements in the stack are:
50
40
30
20
10
```

```
Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
2
Element deleted is =50
Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
2
Element deleted is =40
Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
2
Element deleted is =30
Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
2
Element deleted is =20
Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
2
Element deleted is =10
Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
2
Stack is empty ,underflow condition

Menu
1.Push 2.Pop 3. Display 4.Exit
Enter your choice
4

Process returned 0 (0x0)   execution time : 49.138 s
Press any key to continue.
```