COMPILER DESIGN ASSIGNMENT 1

```python
def DFA():
    s=input("Enter String over given Alphabet{0,1} : ")
    if (len(s)==0):
        print("Empty String ")
        return None
    state=0
    for i in range(0,len(s)):
        if (s[i]=='0'):
            if (state==3):
                state=3
            else:
                state+=1
        else:
            state=0
        if state == 3:
          break
    print("String ended at State : ",state)
    if (state==3):
        print("Input String is accepted by DFA")
    else:
        print("Input String is rejected by DFA")

DFA()
```

```python
def DFA2():
    s=input("Enter String over given Alphabet{0,1} : ")
    if (len(s)==0):
        print("Empty String ")
        return None
    state=0
    for i in range(0,len(s)):
        if (s[i]=='0'):
            if (state==3):
                break
            else:
                state+=1
        else:
            state=0
        if state == 3:
          break
    print("String ended at State : ",state)
    if (state==3):
        print("String is rejected")
    else:
        print("String is accepted")

DFA2()
```

```
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c
Enter String over given Alphabet{0,1} : 1000111
String ended at State :  3
Input String is accepted by DFA
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c
Enter String over given Alphabet{0,1} :
Empty String
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c
Enter String over given Alphabet{0,1} : 111000111
String ended at State :  3
Input String is accepted by DFA
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c
Enter String over given Alphabet{0,1} : 1100
String ended at State :  2
Input String is rejected by DFA
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c
Enter String over given Alphabet{0,1} : 1100011
String ended at State :  3
Input String is accepted by DFA
```

```
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c:
Enter String over given Alphabet{0,1} : 1100
String ended at State :  2
String is accepted
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c:
Enter String over given Alphabet{0,1} : 0110
String ended at State :  1
String is accepted
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c:
Enter String over given Alphabet{0,1} :
Empty String
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c:
Enter String over given Alphabet{0,1} : 10001100
String ended at State :  3
String is rejected
PS C:\Users\Samar Mittal\Desktop\Compiler\lab1> python -u "c:
Enter String over given Alphabet{0,1} : 101
String ended at State :  0
String is accepted
```