

# Dept. of Computer Science & Engineering



**Course Code:** CSE-3528

**Course Title:** Compiler Lab

## Spring-22

**Submitted By:**

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**OBJECTIVE:**

Write a C program to  $\{w \mid w \text{ accepts all strings for the following language } a^n b^n c^m d^m \text{ where } m, n \geq 1 \text{ and } n = m + 2\}$ .

**RESOURCE:**

Code-blocks

**PROGRAM LOGIC:**

Read the input string. By using transition diagram we verify input of the state. If the state recognize the given pattern rule.. Then print string is Accepted under  $a^n b^n c^m d^m$  where  $m, n \geq 1$  and  $n = m + 2$ . Else print string not accepted.

**PROCEDURE:**

Go to debug -> run or press CTRL + F9 to run the program.

**PROGRAM:**

```
#include<bits/stdc++.h>

using namespace std;

int main()
{
    int t;
    cout<<"Enter testcase:";
    cin>>t;
    while(t--)
    {
        string s;
        cout<<"Enter string:";
        cin>>s;
        int length,i,a=0,b=0,c=0,d=0,m,n;
        cout<<"Enter number:";
        cin>>m;
        n=m+2;
        length=s.size()-1;
```

```

for(i=0;i<length;i++){
    if(s[i]=='a') a++;
    if(s[i+n]=='b') b++;
    if(s[i+m+n]=='c') c++;
    if(s[i+n+m]=='d') d++;
}
if(a==n&& b==n&& c==m&& d==m)
    cout<<"Accepted"<<endl;
else
    cout<<"Not Accepted"<<endl;
return 0;
}

```

### **INPUT & OUTPUT:**

#### **Input:**

Enter testcase: 3

Enter string: aaabbbcd

Enter number: 1

Enter string: abcd

Enter number : 2

Enter string: aaaabbbbccdd

Enter number:2

#### **Output:**

Accepted

Not Accepted

Accepted

### **OUTCOMES:**

Students will recognize strings under  $a^n b^n c^m d^m$