

Dept. of Computer Science & Engineering



আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় চট্টগ্রাম
الجامعة الإسلامية 国际伊斯兰大学
International Islamic University Chittagong

Course Code: CSE-3528

Course Title: Compiler Lab

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OBJECTIVE:

Write a C program to {w| w accepts all strings for the following language $a^n b^n c^m d^m$ where $m,n \geq 1$ 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 $a^n b^n c^m d^m$