



Vision: A premiere S&T university for the formation of world class and virtuous human resource for sustainable development in Bohol and the Country.

Mission: BISU is committed to provide quality higher education in the arts and sciences, as well as in the professional and technological fields: undertake research and development, and extension services for the sustainable development of Bohol and the country.

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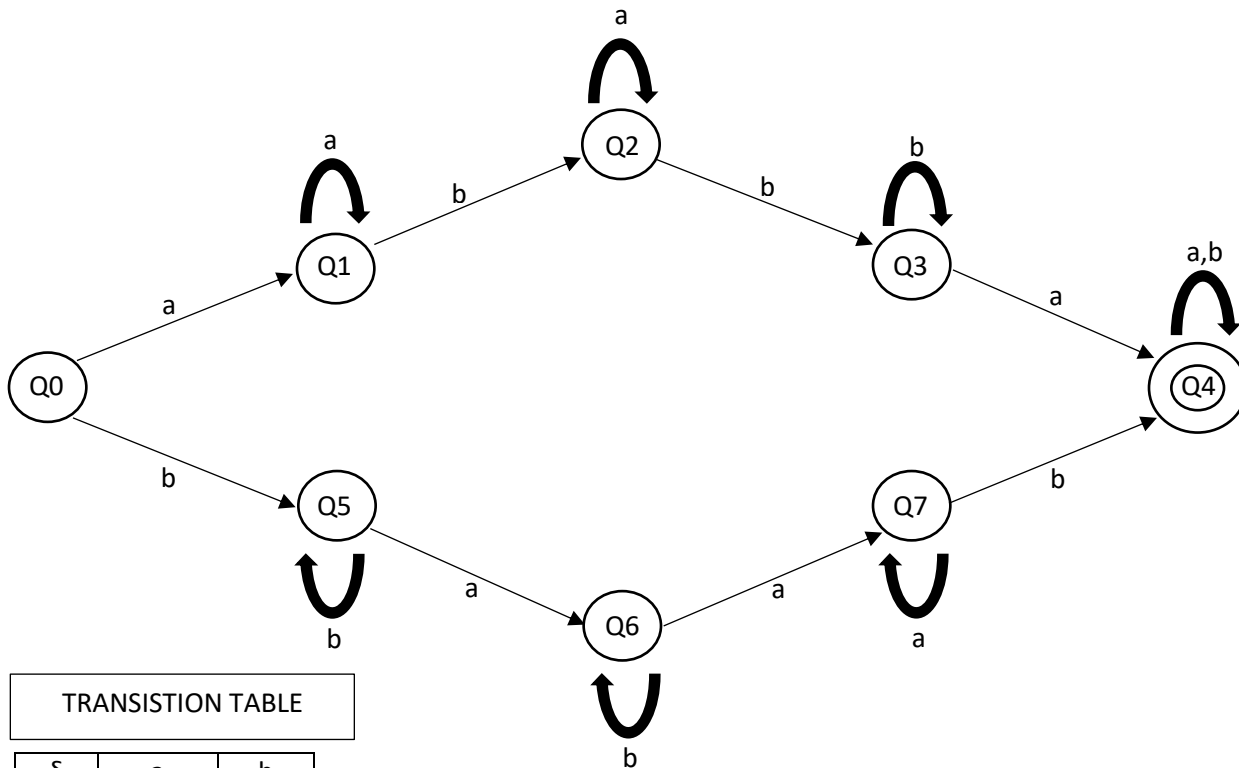
SUBJECT: CpE 412

INSTRUCTOR: Engr. Max Angelo Perin

PROGRAMMING ASSIGNMENT #0-M

B. $L = \{W \in \{a, b\}^* \mid W \text{ has both } \underline{ba} \text{ and } \underline{ab} \text{ as substrings}\}$

Deterministic Finite Automata (DFA)



TRANSITION TABLE

δ	a	b
Q0	Q1	Q5
Q1	Q1	Q2
Q2	Q2	Q3
Q3	Q4	Q3
Q4	Q4	Q4
Q5	Q6	Q5
Q6	Q7	Q6

$M = \{Q0, Q1, Q2, Q3, Q4, Q5, Q6, Q7\}, \{a, b\}, \delta, q_0, \{Q4\}$

SPL (b) SOURCE CODE

```
#include<iostream>
using namespace std;

int main()
{
    int j=0, state=0;
    int table[8][2]={{1,5},{1,2},{2,3},{4,3},{4,4},{6,5},{7,6},{4,4}};
    int input;
    int flag=0;
    char st[100];
    cin>>st;
    while(st[j]!='\0')
    {
        switch (st[j])
        {
            case 'a':
                input=0;
                break;
            case 'b':
                input=1;
                break;
        }
        state=table[state][input];
        if(state==4)
        {
            flag=1;
            break;
        }
        j++;
    }

    if(flag==1)
    {
        cout<<"Accepted";
    }
    else
    {
        cout<<"Not Accepeted";
    }
    return 0;
}
```