CPE 412

STRUCTURE OF PROGRAMMING LANGUAGES

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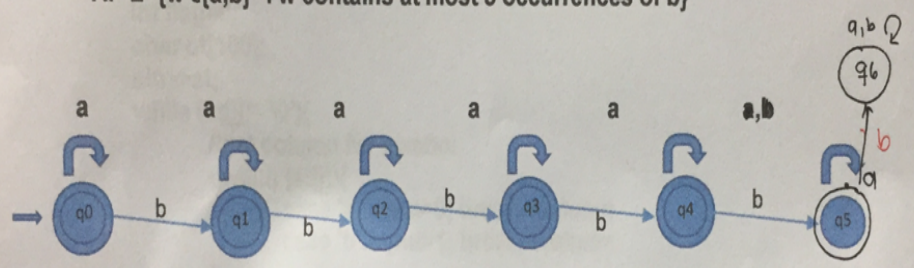
A. L={w ϵ{a,b}* I w contains at most 5 occurrences of b}



	a	b
0	0	1
1	1	2
2	2	3
3	3	4
4	4	5
5	5	6
6	6	6

Q= q0,q1,q2,q3,q4,q5, q6

Initial state= q0

Accept state= {q0}, {q1}, {q2}, {q3}, {q4}, {q5}

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


/* run this program using the console pauser or add your own getch, system("pause") or
input loop */

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

                j++;
        }
        if (flag==0)
        {cout<<" NOT Accepted";
        }
        else{cout<<"Accepted";
        }
        return 0;
```