**Republic of the Philippines**

**Bohol Island State University-Main Campus**

**Tagbilaran City**

**College of Engineering and Architecture**

***Vision: A premier S&T University for the formation of a world class and virtues 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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**CPE 412 – Structure of Programming Languages**

**Engr. Max Angelo D. Perin**

**Instructor**

Assignment: at most 5 occurrences of b.

**State diagram:**

Q1

Q2

Q0

b b

b

Q5

Q5

Q4

Q3

b b

**Transition Table:**

|  |  |  |
| --- | --- | --- |
|  | **a** | **b** |
| **Q0** | **Q0** | **Q1** |
| **Q1** | **Q1** | **Q2** |
| **Q2** | **Q2** | **Q3** |
| **Q3** | **Q3** | **Q4** |
| **Q4** | **Q4** | **Q5** |
| **Q5** | **Q5** | **Q5** |

**Source code:**

#include<iostream>

using namespace std;

int main()

{

int j=0, state=0;

int table[6][2]={{0,1},{1,2},{2,3},{3,4},{4,5},{5,5}};

int input;

int flag=0;

char st[20];

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==5){

flag=1;

break;

}

j++;

}

if (flag==1){

cout<<"ACCEPTED";

}

else {

cout<<"NOT ACCEPTED";

}

return 0;

}