Republic of the Philippines

BOHOL ISLAND STATE UNIVERSITY

MAIN CAMPUS

COLLEGE OF ENGINEERING AND ARCHITECTURE

Tel: 038-4113289 Telefax: 038-5017516

6300 Tagbilaran City

*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.*

**Name**: Cyrus Feliplee Turtoga **Subject**: CpE 412

**Yr/Sec**: BSCPE 4 **Instructor**: Engr. Max Angelo Perin

ID NO.: 359179

**Programming Assignment #0-M**

**Problem:**

1. L = { W ϵ {a, b }\* | w contains at most 5 occurrences of **b**}

**DFA:**

**A,B**

**A**

**A**

**A**

**A**

**A**

**A**

**B**

**B**

**B**

**B**

**B**

**Q6**

**B1**

**Q5**

**Q4**

**Q3**

**Q2**

**Q11**

**Q0**

**Transition Table:**

|  |  |  |
| --- | --- | --- |
| **δ** | **a** | **b** |
| **Q0** | **0** | **1** |
| **Q1** | **1** | **2** |
| **Q2** | **2** | **3** |
| **Q3** | **3** | **4** |
| **Q4** | **4** | **5** |
| **Q5** | **5** | **6** |
| **Q6** | **6** | **6** |

**M = { Q0 , Q1 , Q2 , Q3 , Q4 , Q5 , Q6},{A,B}, δ, Q0,{ Q0 , Q1 , Q2 , Q3 , Q4 , Q5 }**

**Source Code:**

#include<iostream>

#include<cstring>

using namespace std;

int main()

{

char str[100];

int q, count=0, count1;

cout<<"Enter String: ";

gets(str);

for(q=0; q<strlen(str); q++)

{

if(str[q]=='b')

{

count++;

}

if(str[q]!='a'&&str[q]!='b')

{

cout<<"Invalid";

count1++;

break;

}

}

if (count<=5&&count1==0)

{

cout<<"Accepted";

}

if(count>5)

{

cout<<"Invalid";

}

return 0;

}