Republic of the Philippines

**BOHOL ISLAND STATE UNIVERSITY**

**MAIN CAMPUS**

**COLLEGE OF ENGINEERING AND ARCHITECTURE**

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*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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YR/SEC: BSCPE 4 INSTRUCTOR: ENGR. MAX ANGELO PERIN

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**PROGRAMMING ASSIGNMENT #0-M**

c. L= {w ϵ {a,b}\* | w contains at least 5 occurences of **b**}

­

**a,b**

**b**

**b**

**b**

**b**

**a**

**a**

**a**

**a**

**a**

|  |  |  |
| --- | --- | --- |
| δ | a | b |
| 0 | 0 | 1 |
| 1 | 1 | 2 |
| 2 | 2 | 3 |
| 3 | 3 | 4 |
| 4 | 4 | 5 |
| 5 | 5 | 5 |

M= {q0,q1,q2,q3,q4,q5}, {a,b}, δ, {q0}, {q5}

**Deterministic Finite Automata (DFA)**

**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[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==5)**

**{**

**flag=1;**

**break;**

**}**

**j++;**

**}**

**if (flag==1)**

**{**

**cout<<"Accepted";**

**}**

**else**

**{**

**cout<<"Not Accepted";**

**}**

**return 0;**

**}**