**Project**

**Theory Of Automata**

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**Language:**

: n>=0

**Descriptive Definition:**

There will always be 1 less a then b, where n>=0.

Words:

{abb, aabbb, aaabbbb, aaaabbbbb, aaaaabbbbbb, aaaaaabbbbbbb ………. }

**CODE:**

#include <iostream>

#include <string>

using namespace std;

void Check()

{

int count1 = 0,count2 = 0;

string str;

int len = str.length();

cout<<" Please Keep in mind the lanuguage, that is "<<endl;

cout<<endl;

cout<<" a^n+1 b^n+2 |n>=0 "<<endl;

cout<<endl;

cout<<"Enter String ";

cin>>str;

cout << "\n Your String is " << str << " \n";

for (int i = 0; i < len; i++) //loops that will not let any other alphabet to take a's place

{

for (int j = 0; j < len - 1; j++) //loops that will not let any other alphabet to take a's place

{

if (str[j] > str[j + 1])

{

cout<<"Error Your string does not follow the language ";

}

}

}

for (int i = 0; i < str.size(); i++)

{

if (str.at(i) == 'a') //conditions for the language

count1++;

}

for (int i = 0; i < str.size(); i++)

{

if (str.at(i) == 'b') //conditions for the language

count2++;

}

if(count1+1==count2)

{

cout<<"Correct, Your String Belong to this Language ";

}

else

{

cout<<"Error! Your String Does not belong in this Language ";

}

}

int main()

{

Check();

return 0;

}

**Turing Machine:**

