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EXP NO : 4

CHECKING WHETHER A STRING BELONGS TO A GRAMMAR

Ex 4 a

AIM :

To write a C program to check whether a string belongs to the grammar

S → 0 A 1

A → 0 A | 1 A | ε

Language defined by the Grammar:

Set of all strings over Σ={0,1} that start with 0 and end with 1

ALGORTIHM :

1. Get the input string from the user.

2. Find the length of the string.

3. Check whether all the symbols in the input are either 0 or 1. If so,

print "String is valid" and go to step 4. Otherwise print "String not

valid" and quit the program.

4. If the first symbol is 0 and the last symbol is 1, print "String

accepted". Otherwise, print "String not accepted"

PROGRAM :

#include<stdio.h>
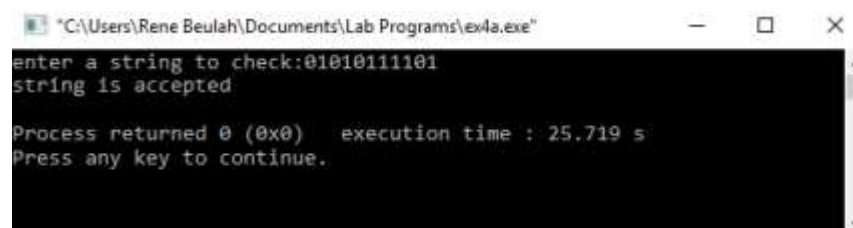
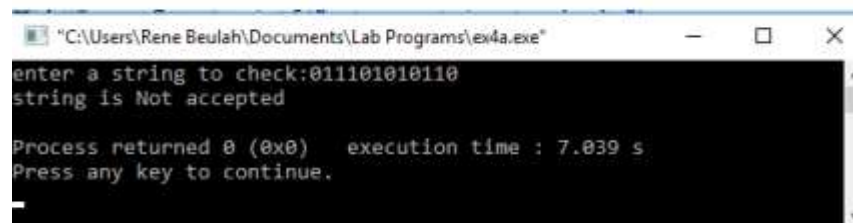#include<string.h>

int main(){

char s[100];

int i,flag;

```c
int l;
printf("enter a string to check:");
scanf("%s",s);
l=strlen(s);
flag=1;
for(i=0;i<l;i++)
{
if(s[i]!='0' && s[i]!='1')
{
 flag=0;
}
}
if(flag!=1)
printf("string is Not Valid\n");
if(flag==1)
{
if (s[0]=='0'&&s[l-1]=='1')
printf("string is accepted\n");
else
printf("string is Not accepted\n");
}
```
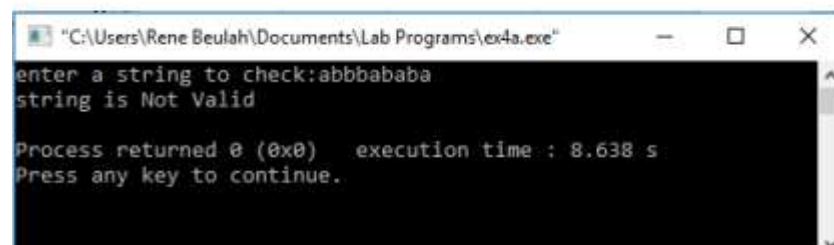
RESULT:


```
"C:\Users\Rene Beulah\Documents\Lab Programs\ex4a.exe"          —    □    ×
enter a string to check:01010111101
string is accepted

Process returned 0 (0x0)    execution time : 25.719 s
Press any key to continue.
```



```
"C:\Users\Rene Beulah\Documents\Lab Programs\ex4a.exe"          —    □    ×
enter a string to check:011101010110
string is Not accepted

Process returned 0 (0x0)    execution time : 7.039 s
Press any key to continue.
```



```
"C:\Users\Rene Beulah\Documents\Lab Programs\ex4a.exe"          —    □    ×
enter a string to check:abbbababa
string is Not Valid

Process returned 0 (0x0)    execution time : 8.638 s
Press any key to continue.
```