System Software

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Lab Assignment 1

Write a program to convert Regular Expression to DFA.

```c
#include <stdio.h>
#include <string.h>
#include <stdlib.h>

void main() {
  int table[2][2];
  int i = 0;
  int j = 0;
  int status = 0;
  int success = 0;
  char input[100];
  printf("To implement DFA of language (a+aa*b)* \nEnter Input String: ");
  scanf("%s",input);
  int len = strlen(input);

  table[0][0] = 1;
  table[0][1] = -1;
  table[1][0] = 1;
  table[1][1] = 0;

  for (i = 0; i < len; i++) {
    if(input[i] != 'a' && input[i] != 'b') {
      printf("The entered value is wrong.");
      break;
    }
```

```c
        if(input[i] == 'a')
            status = table[status][0];
        else status = table[status][1];

        if(status == -1) {
            printf("String not Accepted.\n");
            break;
        }
    }
    if(i == len)
        printf("String Accepted.\n");
}
```

```
$ cd "/home/administrator/SS/" && gcc dfa.c -o dfa && "/home/administrator/SS/"dfa
To implement DFA of language (a+aa*b)*
Enter Input String: abaabaaab
String Accepted.
```