

PRACTICAL - 1

Practical Definition : String Validation Against Regular Expression

Objective : To implement a program that validates a user-input string against the regular expression `a*bb`. The program should determine whether the input string is valid or invalid based on the defined pattern.

Language Constraint : The program must be implemented in C language.

CODE :

```
#include <stdio.h>

#include <string.h>

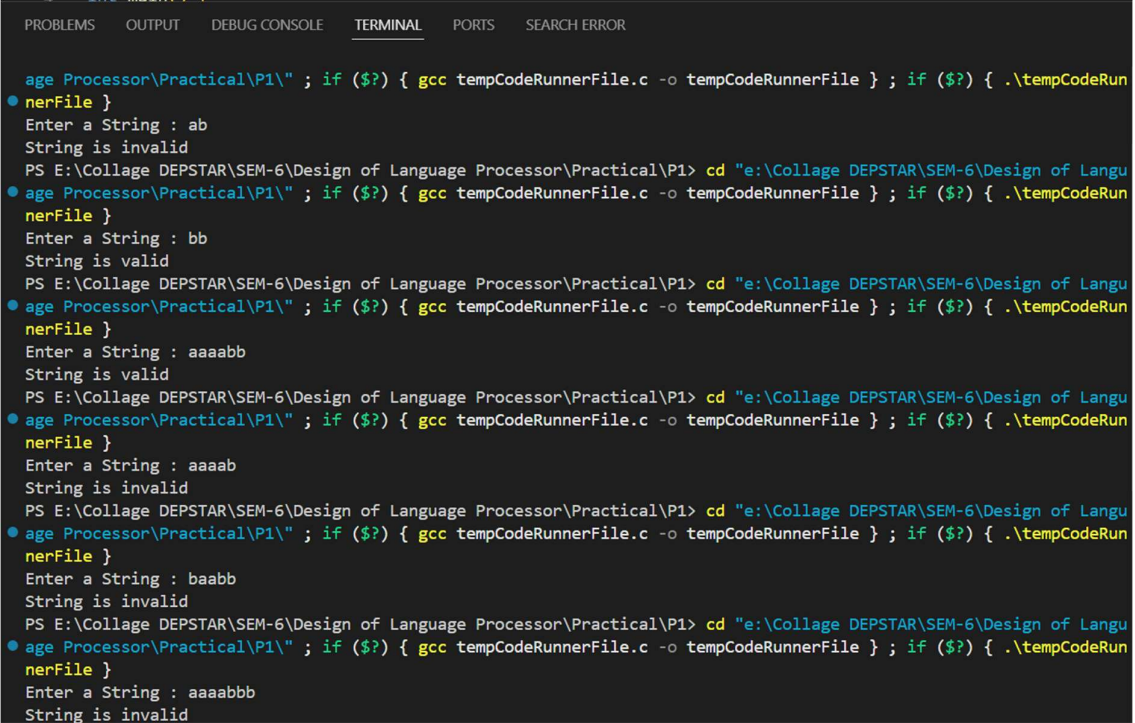
int main() {
    char a[10];
    printf("Enter a String : ");
    scanf("%s", a);

    int n = strlen(a);

    if (n < 2) {
        printf("String is invalid\n");
    } else if (n == 2) {
        int count = 0;
        for (int i = 0; i < n; i++) {
            if (a[i] == 'b') {
                count++;
            } else {
                break;
            }
        }
        if (count == 2) {
```

```
        printf("String is valid\n");
    } else {
        printf("String is invalid\n");
    }
} else {
    int count = 0;
    if(a[n-1] == 'b' && a[n-2] == 'b'){
        for (int i = 0; i <= n-3; i++) {
            if (a[i] == 'a') {
                count++;
            } else {
                break;
            }
        }
        if (count == n-2) {
            printf("String is valid\n");
        } else {
            printf("String is invalid\n");
        }
    }
}

return 0;
}
```

OUTPUT :

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS SEARCH ERROR

age Processor\Practical\P1\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRun
nerFile }
Enter a String : ab
String is invalid
PS E:\Collage DEPSTAR\SEM-6\Design of Language Processor\Practical\P1> cd "e:\Collage DEPSTAR\SEM-6\Design of Langu
age Processor\Practical\P1\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRun
nerFile }
Enter a String : bb
String is valid
PS E:\Collage DEPSTAR\SEM-6\Design of Language Processor\Practical\P1> cd "e:\Collage DEPSTAR\SEM-6\Design of Langu
age Processor\Practical\P1\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRun
nerFile }
Enter a String : aaaabb
String is valid
PS E:\Collage DEPSTAR\SEM-6\Design of Language Processor\Practical\P1> cd "e:\Collage DEPSTAR\SEM-6\Design of Langu
age Processor\Practical\P1\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRun
nerFile }
Enter a String : aaaab
String is invalid
PS E:\Collage DEPSTAR\SEM-6\Design of Language Processor\Practical\P1> cd "e:\Collage DEPSTAR\SEM-6\Design of Langu
age Processor\Practical\P1\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRun
nerFile }
Enter a String : baabb
String is invalid
PS E:\Collage DEPSTAR\SEM-6\Design of Language Processor\Practical\P1> cd "e:\Collage DEPSTAR\SEM-6\Design of Langu
age Processor\Practical\P1\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRun
nerFile }
Enter a String : aaaabbb
String is invalid
```