

Lab Report

Course Title: Compiler Design Lab
Course Code: CSE332

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1. Write a C program that will count the length of a string

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);

#define ll long long
//=====

void solve() {
    string s;
    getline(cin, s);

    int len = 0;
    for(ll i=0; i<s.length(); i++) len++;

    cout << "Length = " << len << "\n";
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif

    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
}
```

Input:	Output:
my name is taufik	Length = 17

2. Write a C program that will count the number of white spaces from a given string

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string s;
    getline(cin, s);

    ll spaces = 0;
    for(ll i=0; i<s.length(); i++) {
        if(s[i] == ' ' || s[i] == '\t') spaces++;
    }

    cout << "Number of white spaces: " << spaces << "\n";
}

int main() {

#ifndef ONLINE_JUDGE

    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif

    optimize();
    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
}
```

Input:

```
my name is taufik
```

Output:

```
Number of white spaces: 3
```

3. Write a C program that will remove white space from a string

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string s;
    getline(cin, s);

    string res;
    for(ll i=0; i<s.length(); i++) {
        if(s[i] != ' ' && s[i] != '\t') res += s[i];
    }

    cout << res << "\n";
}

int main() {
#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
```

```

freopen("out.txt", "w", stdout);
#endif
optimize();

ll tc=1;
// cin>>tc;
while(tc--)
    solve();
}

```

Input:

```
my name is taufik
```

Output:

```
mynameistaufik
```

4. Write a C program that will count vowel, consonant and digit of a string

```

#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

bool isVowel(char c) {
    c = tolower(c);
    return c=='a' || c=='e' || c=='i' || c=='o' || c=='u';
}

void solve() {

```

```

string s;
getline(cin, s);

ll vowel = 0, consonant = 0, digit = 0;

for(ll i=0; i<s.length(); i++) {
    if(isdigit(s[i])) digit++;
    else if(isalpha(s[i])){
        if(isVowel(s[i])) vowel++;
        else consonant++;
    }
}

cout << "Vowel: " << vowel << "\n";
cout << "Consonant: " << consonant << "\n";
cout << "Digit: " << digit << "\n";
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}

```

Input:

```
my name is taufik id: 1483
```

Output:

```
Vowel: 7
Consonant: 9
Digit: 4
```

5. Write a C program that will tokenize a string using strtok() library function

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string s;
    getline(cin, s);

    char buf[1005];
    memset(buf, 0, sizeof(buf));
    int n = min((int)s.size(), 1000);
    for(int i = 0; i < n; i++) buf[i] = s[i];
    buf[n] = '\0';

    const char *delim = " ,.;\t\n";
    char *token = strtok(buf, delim);

    while(token != nullptr) {
        cout << token << "\n";
        token = strtok(nullptr, delim);
    }
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
}
```

```

optimize();

ll tc=1;
// cin>>tc;
while(tc--)
    solve();
}

```

Input:

```
my name is taufik id: 1483
```

Output:

```
my
name
is
taufik
id:
1483
```

6. Write a C program that will tokenize a string without using strtok() library function

```

#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string s;
    getline(cin, s);
}

```

```
stringstream ss(s);
string token;

while(ss >> token) {
    cout << token << "\n";
}
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
}
```

Input:

```
my name is taufik id: 1483
```

Output:

```
my
name
is
taufik
id:
1483
```

7. Write a C program that will take multiple lines as input and count the number of lines

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve(){
    string line;
    ll cnt = 0;

    while(getline(cin, line)){
        cnt++;
    }

    cout << "Number of lines: " << cnt << "\n";
}

int main(){

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif

    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
}
```

Input:

```
my name is taufik  
my id is id: 1483  
my section is 63M
```

Output:

```
Number of lines: 3
```

8. Write a C program that will take multiple lines as input and identify the comments if there any

```
#include<bits/stdc++.h>  
using namespace std;  
  
#define optimize()  
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);  
#define ll long long  
  
//=====  
  
void solve(){  
    string line;  
    bool inBlock = false;  
    ll lineNumber = 0;  
  
    while(getline(cin, line)){  
        lineNumber++;  
        for(size_t i = 0; i < line.size(); i++){  
            if(!inBlock){  
                if(i + 1 < line.size() && line[i] == '/' &&  
line[i+1] == '/') {  
                    cout << "Single-line comment at line " <<  
lineNumber << ":" "  
                        << line.substr(i) << "\n";  
                }  
            }  
        }  
    }  
}
```

```

                break;
            }
            if(i + 1 < line.size() && line[i] == '/' &&
line[i+1] == '*'){

                inBlock = true;
                cout << "Start of block comment at line " <<
lineNo << "\n";
            }
        }else{
            if(i + 1 < line.size() && line[i] == '*' &&
line[i+1] == '/'){

                inBlock = false;
                cout << "End of block comment at line " <<
lineNo << "\n";
                i++;
            }
        }
    }
}

int main(){

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}

```

Input:

```
my name is //taufik  
my id is /*id: 1483*/  
my section is 63M
```

Output:

```
Single-line comment at line 1: //taufik  
Start of block comment at line 2  
End of block comment at line 2
```

9. Write a C program that will take multiple lines as input and remove the single line/multiple lines comments if there any

```
#include<bits/stdc++.h>  
using namespace std;  
  
#define optimize()  
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);  
#define ll long long  
  
//=====  
  
void solve() {  
    string line;  
    bool inBlock = false;  
  
    while(getline(cin, line)) {  
        string res;  
        for(size_t i = 0; i < line.size(); i++) {  
            if(!inBlock) {  
                if(i + 1 < line.size() && line[i] == '/' && line[i+1] == '/') {  
                    break; // ignore rest  
                } else if(i + 1 < line.size() && line[i] == '*' && line[i+1] == '*') {  
                    inBlock = true;  
                }  
            } else if(i + 1 < line.size() && line[i] == '*' && line[i+1] == '/') {  
                inBlock = false;  
            }  
            res += line[i];  
        }  
        cout << res << endl;  
    }  
}
```

```

                inBlock = true;
                i++;
            }else{
                res += line[i];
            }
        }else{
            if(i + 1 < line.size() && line[i] == '*' && line[i+1]
== '/') {
                inBlock = false;
                i++;
            }
        }
        if(!res.empty() && !inBlock){
            cout << res << "\n";
        }
    }
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}

```

Input:

```
my name is //taufik  
my id is /*id: 1483*/  
my section is 63M
```

Output:

```
my name is  
my id is  
my section is 63M
```

10. Write a C program that will identify the articles from a given input string and count the articles

```
#include<bits/stdc++.h>  
using namespace std;  
  
#define optimize()  
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);  
#define ll long long  
  
//=====  
  
void solve(){  
    string s;  
    getline(cin, s);  
  
    stringstream ss(s);  
    string word;  
    ll cnt = 0;  
  
    while(ss >> word){  
        string t = word;  
  
        for(ll i=0; i<t.length(); i++) t[i] = tolower(t[i]);
```

```

        while(!t.empty() && ispunct(t.back())) t.pop_back();

        if(t == "a" || t == "an" || t == "the"){
            cnt++;
        }
    }

    cout << "Number of articles: " << cnt << "\n";
}

int main(){

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}

```

Input:	Output:
An the a an the a an the the The	Number of articles: 10

11. Write a C program that will recognize whether the input is a valid identifier or not

```
#include <bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve()
{
    string s;

    while(getline(cin, s)) {

        ll count=0;

        if ((s[0] >= 'a' && s[0] <= 'z') || (s[0] >= 'A' && s[0] <=
'Z') || s[0] == '_')
        {
            count++;

            for (ll i = 1; i <= s.length(); i++)
                if ((s[i] >= 'a' && s[i] <= 'z') || (s[i] >= 'A' &&
s[i] <= 'Z') || (s[i] >= '0' && s[i] <= '9') || (s[i] == '_'))
                    count++;
        }

        if(count == s.length()) cout<< "String =" << s <<" is a
valid identifier" <<'\n';
        else cout<< "String =" << s <<" is not a valid identifier"
<<'\n';
    }
}
```

```
int main()
{
    #ifndef ONLINE_JUDGE
        freopen("in.txt", "r", stdin);
        freopen("out.txt", "w", stdout);
    #endif
    optimize();

    ll tc = 1;
    // cin>>tc;
    while (tc--)
        solve();
}
```

Input:

```
Hatr
_hak
#pot
K
r@b
rat_cat
```

Output:

```
String =Hatr is a valid identifier
String =_hak is a valid identifier
String =#pot is not a valid identifier
String =K is a valid identifier
String =r@b is not a valid identifier
String =rat_cat is a valid identifier
```

12. Write a C program that will find and count the maximum frequency of a word in a given string

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string s;
    getline(cin, s);

    stringstream ss(s);
    string word;
    map<string, ll> freq;

    while(ss >> word) {
        freq[word]++;
    }

    string best;
    ll mx = 0;
    for(auto &p : freq) {
        if(p.second > mx) {
            mx = p.second;
            best = p.first;
        }
    }

    if(mx == 0) {
        cout << "No words found\n";
    }else{
        cout << "Word with maximum frequency: " << best << "\n";
        cout << "Frequency: " << mx << "\n";
    }
}
```

```
        }

}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
```

Input:

```
i i i am am taufik
```

Output:

```
Word with maximum frequency: i
Frequency: 3
```

13. Write a C program that will find the maximum frequency of a word in a given string

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve(){
    string s;
    getline(cin, s);

    stringstream ss(s);
    string word;
    map<string, ll> freq;

    while(ss >> word){
        freq[word]++;
    }

    string best;
    ll mx = 0;
    for(auto &p : freq){
        if(p.second > mx){
            mx = p.second;
            best = p.first;
        }
    }

    if(mx == 0){
        cout << "No words found\n";
    }else{
        cout << "Word with maximum frequency: " << best << "\n";
        cout << "Frequency: " << mx << "\n";
    }
}
```

```
    }

}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
```

Input:

```
i i i am am taufik
```

Output:

```
Word with maximum frequency: i
Frequency: 3
```

14. Write a C program that will count the length of a string and reverse with an extra message

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve(){
    string s;
    getline(cin, s);

    ll len = (ll)s.size();
    string rev = s;
    reverse(rev.begin(), rev.end());

    cout << "Length: " << len << "\n";
    cout << "Reverse: " << rev << "\n";
    cout << "Message: String processed successfully!\n";
}

int main(){

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif

    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
}
```

Input:

```
My name is Taufik
```

Output:

```
Length: 17
Reverse: kifuaT si eman yM
Message: String processed successfully!
```

15. Write a C program that will count character without white space

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string s;
    getline(cin, s);

    ll cnt = 0;
    for(ll i=0; i<s.length(); i++) {
        if(s[i]!=' ') cnt++;
    }

    cout << "Characters without whitespace: " << cnt << "\n";
}

int main() {
```

```

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
optimize();

ll tc=1;
// cin>>tc;
while(tc--)
    solve();
}

```

Input:

My name is Taufik

Output:

Characters without whitespace: 14

16. Write a C program that will allow to enter 3 character and it will show next 3 character

```

#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {

```

```
char a, b, c;
cin >> a >> b >> c;

cout << char(a + 1) << " " << char(b + 1) << " " << char(c + 1)
<< "\n";
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
}
```

Input:	Output:
T A T	U B U

17. Write a C program that will Show the initial (ex: Input: Mushfiqur Rahman - Output: MR)

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string name;
    getline(cin, name);

    string initials;
    bool newWord = true;

    for(ll i=0; i<name.length(); i++) {
        if(name[i] == ' ') {
            newWord = true;
        }else if(newWord) {
            initials += name[i];
            newWord = false;
        }
    }

    cout << initials << "\n";
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
}
```

```

optimize();

ll tc=1;
// cin>>tc;
while(tc--)
    solve();
}

```

Input:	Output:
Taufik Al Tasmir	TAT

18. Write a C program that will show Syntax table (letter, digits, symbol, arithmetic/logical operator)

```

#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

bool isArith(char c){
    return c=='+' || c=='-' || c=='*' || c=='/' || c=='%';
}

```

```

bool isLogical(char c){
    return c=='&' || c=='|' || c=='!' || c=='^';
}

void solve(){
    string s;
    getline(cin, s);

    ll letters = 0, digits = 0, symbols = 0, arith = 0, logic = 0;

    for(char c : s){
        if(isalpha((unsigned char)c)) letters++;
        else if(isdigit((unsigned char)c)) digits++;
        else if(isArith(c)) arith++;
        else if(isLogical(c)) logic++;
        else if(!isspace((unsigned char)c)) symbols++;
    }

    cout << "Letters: " << letters << "\n";
    cout << "Digits: " << digits << "\n";
    cout << "Symbols: " << symbols << "\n";
    cout << "Arithmetic operators: " << arith << "\n";
    cout << "Logical operator characters: " << logic << "\n";
}

int main(){

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif

    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}

```

Input:

```
Taufik Al Tasmir 18+! & counting ()
```

Output:

```
Letters: 22
Digits: 2
Symbols: 2
Arithmetic operators: 1
Logical operator characters: 2
```

19. Write a C program that will remove special character from that string

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve() {
    string s;
    getline(cin, s);

    string res;
    for(ll i=0; i<s.length(); i++) {
        if(s[i]>='a' && s[i]<='z' || s[i]>='A' && s[i]<='Z' ||
s[i]>='0' && s[i]<='9' || s[i]==' ') {
            res += s[i];
        }
    }
}
```

```
    cout << res << "\n";
}

int main() {

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc=1;
    // cin>>tc;
    while(tc--)
        solve();
}
}
```

Input:

```
Taufik Al Tasmir 18+! & counting ()
```

Output:

```
Taufik Al Tasmir 18  counting
```

20. Write a C program for regular expression with Example:

Expression=(ab)*

```
#include <bits/stdc++.h>
using namespace std;

#define optimize() \
    ios_base::sync_with_stdio(0); \
    cin.tie(0); \
    cout.tie(0);
#define ll long long

//=====

void solve()
{
    string s;

    while (getline(cin, s))
    {
        ll len = s.length(), count = 0;

        if (len == 0)
            cout << "Acceptable" << '\n';

        else{
            for (ll i = 0; i < len - 1; i += 2)
                if (s[i] == 'a' && s[i + 1] == 'b')
                    count++;

            if (len - count == count) cout << "Acceptable" << '\n';

            else cout << "Not Acceptable" << '\n';
        }
    }
}
```

```
int main()
{
#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc = 1;
    // cin>>tc;
    while (tc--)
        solve();
}
```

Input:

```
ab
ababab
aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
```

Output:

```
Acceptable
Acceptable
Acceptable
Not Acceptable
```

Expression=ab*

```
#include<bits/stdc++.h>
using namespace std;

#define optimize()
ios_base::sync_with_stdio(0);cin.tie(0);cout.tie(0);
#define ll long long

//=====

void solve(){
    string s;

    while(getline(cin, s)){
        ll len = s.length(), count=0;

        if(len == 1 && s[0] == 'a') cout<<"Acceptable" <<'\n';

        else{
            for(ll i=1; i<len; i++) if(s[i]=='b') count++;

            if(count == len-1) cout<<"Acceptable" <<'\n';
            else cout<<"Not Acceptable" <<'\n';
        }
    }
}

int main(){

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif

    optimize();

    ll tc=1;
```

```

    // cin>>tc;
    while(tc--)
        solve();
}

```

Input:

```

a
ab
abbb
aaaaaaaaaaaaaaaaaaaa

```

Output:

```

Acceptable
Acceptable
Acceptable
Not Acceptable

```

Expression=ab+

```

#include <bits/stdc++.h>
using namespace std;

#define optimize() \
    ios_base::sync_with_stdio(0); \
    cin.tie(0); \
    cout.tie(0);
#define ll long long

//=====

void solve()
{
    string s;

    while (getline(cin, s))
    {

```

```

ll len = s.length(), count = 0;

if (s[0] == 'a'){
    for (ll i = 1; s[i] != '\0'; i++) if (s[i] == 'b')
count++;

    if (count == len - 1) cout << "Acceptable" << '\n';

    else cout << "Not Acceptable" << '\n';
}

else cout << "Not Acceptable" << '\n';
}

int main()
{

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc = 1;
    // cin>>tc;
    while (tc--)
        solve();
}

```

Input:

```

ab
aaaaaaaa
ababab
aaaaaaaaaaaaaa

```

Output:

```

Acceptable
Acceptable
Not Acceptable
Acceptable

```

Expression=a(a|b)*a

```
#include <bits/stdc++.h>
using namespace std;

#define optimize() \
    ios_base::sync_with_stdio(0); \
    cin.tie(0); \
    cout.tie(0);
#define ll long long

//=====

void solve()
{
    string s;

    while (getline(cin, s))
    {
        ll len = s.length(), count = 0;

        if (s[len - 1] == 'a' && s[0] == 'a') cout << "Acceptable"
<< '\n';

        else cout << "Not Acceptable" << '\n';
    }
}

int main()
{

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();
}
```

```
ll tc = 1;
// cin>>tc;
while (tc--)
    solve();
}
```

Input:

```
aa
abbba
ababab
aaaaaaaaaaaaaaaaaaaa
```

Output:

```
Acceptable
Acceptable
Not Acceptable
Acceptable
```

Expression=(a|b)*b(a|b)*b(a|b)

```
#include <bits/stdc++.h>
using namespace std;

#define optimize() \
    ios_base::sync_with_stdio(0); \
    cin.tie(0); \
    cout.tie(0);
#define ll long long

//=====

void solve()
{
    string s;
```

```

while (getline(cin, s))
{
    ll len = s.length(), count = 0;

    if (s[len-3]=='a') cout << "Acceptable" << '\n';

    else cout << "Not Acceptable" << '\n';
}

int main()
{

#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
    optimize();

    ll tc = 1;
    // cin>>tc;
    while (tc--)
        solve();
}

```

Input:	Output:
aaa ababbabababbabb baa aaaaaaaaaaaaaa	Acceptable Acceptable Not Acceptable Not Acceptable

Expression=(a|b)*a(a|b)(a|b)*

```
#include <bits/stdc++.h>
using namespace std;

#define optimize() \
    ios_base::sync_with_stdio(0); \
    cin.tie(0); \
    cout.tie(0);
#define ll long long

//=====

void solve()
{
    string s;

    while (getline(cin, s))
    {
        ll len = s.length(), count = 0;

        if (len<2) cout << "Not Acceptable" << '\n';

        else {
            for (ll i = 0; i<len ; i++)
                if (s[i] == 'b')
                    count++;
            if (count >= 2)
                printf("Acceptable\n");
            else
                printf("Not Acceptable\n");
        }
    }
}

int main()
{
```

```
#ifndef ONLINE_JUDGE
    freopen("in.txt", "r", stdin);
    freopen("out.txt", "w", stdout);
#endif
optimize();

ll tc = 1;
// cin>>tc;
while (tc--)
    solve();
}
```

Input:

```
bb
ababbabababbabb
baa
aaaaaaaaaaaaaa
```

Output:

```
Acceptable
Acceptable
Not Acceptable
Acceptable
```