

CODE

```
#include <iostream>
#include <stdlib.h>
using namespace std;
/*
E->TE'
E'->+TE'|-TE'|null
T-> FT'
T'->*FT'|/FT'|null
F-> id|num|(E)
*/
int count = 0;
void E();
void Ed();
void T();
void Td();
void F();

string expr;

int main() {
    cin >> expr;
    int l = expr.length();
    expr += "$";
    E();
    if (l == count)
        cout << "Accepted" << endl;
    else
        cout << "Rejected" << endl;
}

void E() {
    cout << "E->TE'" << endl;
    T();
    Ed();
}

void Ed() {
    if (expr[count] == '+') {
        count++;
        cout << "E'->+TE'" << endl;
        T();
        Ed();
    }
}
```

```

}

else if (expr[count] == '-') {
    count++;
    cout << "E'>-TE" << endl;
    T();
    Ed();
}

else {
    cout << "E'>null" << endl;
}
}

void T() {
    cout << "T->FT" << endl;
    F();
    Td();
}

void Td() {
    if (expr[count] == '*') {
        count++;
        cout << "T'>*FT" << endl;
        F();
        Td();
    }

    else if (expr[count] == '/') {
        count++;
        cout << "T'>/FT" << endl;
        F();
        Td();
    }

    else {
        cout << "T'>null" << endl;
    }
}

void F() {
    if (isalpha(expr[count])) {
        count++;
    }
}

```

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    cout << "F->id" << endl;
} else if (isdigit(expr[count])) {
    count++;
    cout << "F->digit" << endl;
} else if (expr[count] == '(') {
    count++;
    cout << "F->(E)" << endl;
    E();
    if (expr[count] != ')') {
        cout << "Rejected" << endl;
        exit(0);
    }
    count++;
} else {
    cout << "Rejected" << endl;
    exit(0);
}
}
/*

*/

```

OUTPUT

```

a*2-3
E->TE'
T->FT'
F->id
T'->*FT'
F->digit
T'->null
E'->-TE'
T->FT'
F->digit
T'->null
E'->null
Accepted

```

```

a*
E->TE'
T->FT'
F->id

```

$T' \rightarrow *FT'$
Rejected