**COMPILER DESIGN LAB**

**RECURSIVE DECENT PARSER**

**BY-**

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**CODE:**

#include <iostream>

#include <string>

using namespace std;

string input;

int i = 0;

bool E();

bool E\_();

bool T();

bool T\_();

bool F();

bool match(char expected) {

if (i < input.length() && input[i] == expected) {

i++;

return true;

}

return false;

}

bool E() {

if (T()) {

if (E\_()) {

return true;

}

}

return false;

}

bool E\_() {

if (match('+')) {

if (T()) {

if (E\_()) {

return true;

}

}

return false;

}

return true;

}

bool T() {

if (F()) {

if (T\_()) {

return true;

}

}

return false;

}

bool T\_() {

if (match('\*')) {

if (F()) {

if (T\_()) {

return true;

}

}

return false;

}

return true;

}

bool F() {

if (match('(')) {

if (E()) {

if (match(')')) {

return true;

}

}

return false;

} else if (match('i')) {

return true;

}

return false;

}

int main() {

cout << "Enter input string to parse: ";

cin >> input;

input += '$';

if (E() && input[i] == '$') {

cout << "The input string is valid." << endl;

} else {

cout << "The input string is invalid." << endl;

}

return 0;

}

OUTPUT:

