

10. Recursive Descent Parser

```
#include <stdio.h>
#include <string.h>
char input[50];
int i = 0;
int T() {
    if (input[i] == 'i' && input[i+1] == 'd') {
        i += 2;
        return 1;
    }
    return 0;
}
int Eprime() {
    if (input[i] == '+') {
        i++;
        if (T())
            return Eprime();
        return 0;
    }
    return 1;
}
int E() {
    if (T())
        return Eprime();
    return 0;
}
int main() {
    printf("Enter expression: ");
    scanf("%s", input);
```

```

if (E() && input[i] == '\0')
    printf("Parsing Successful\n");
else
    printf("Parsing Failed\n");
return 0;
}

```

Output:

The screenshot shows the Dev-C++ IDE interface. On the left, the code editor displays the file `exp 10.cpp` with the following content:

```

1 #include <stdio.h>
2 #include <string.h>
3 char input[50];
4 int i = 0;
5 int T() {
6     if (input[i] == 'i' && input[i+1] == 
7         i += 2;
8         return 1;
9     }
10    return 0;
11 }
12 int Eprime() {
13     if (input[i] == '+') {
14         i++;

```

On the right, the terminal window shows the output of the program:

```

Enter expression: id+id+id
Parsing Successful
-----
Process exited after 29.9 seconds with return value 0
Press any key to continue . . .

```

Below the terminal, the compilation results are displayed:

```

Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Reddy\Downloads\exp 10.exe
- Output Size: 128.869140625 KiB
- Compilation Time: 0.38s

```

