

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 image shows a screenshot of the Dev-C++ IDE. The main window displays the source code for a file named `exp 10.cpp`. The code includes `<stdio.h>` and `<string.h>`, and defines a character array `input[50]` and an integer `i`. It contains two functions: `T()` which checks for the character 'i' and increments `i` by 2, and `Eprime()` which checks for the character '+' and increments `i` by 1. The `main` function calls `T()` and `Eprime()` and prints the result.

The bottom panel shows the compilation results, indicating that the program compiled successfully with no errors or warnings. The output filename is `C:\Users\Reddy\Downloads\exp 10.exe`, the output size is 128.869140625 KiB, and the compilation time is 0.38s.

On the right side, there is a terminal window showing the execution of the program. It prompts the user to "Enter expression: id+id+id" and outputs "Parsing Successful". Below this, it shows the process exiting after 29.9 seconds with a return value of 0.

