

7. C Program to Perform Left Factoring

```
#include <stdio.h>
#include <string.h>
int main() {
    char A, p1[50], p2[50], common[50];
    printf("Enter production (A->αβ1|αβ2): ");
    scanf("%c->%[^]|%s", &A, p1, p2);
    int i = 0;
    while (p1[i] == p2[i]) {
        common[i] = p1[i];
        i++;
    }
    common[i] = '\0';
    printf("\nAfter Left Factoring:\n");
    printf("%c -> %s%c\n", A, common, A);
    printf("%c' -> %s | %s\n", A, p1 + i, p2 + i);
    return 0;
}
```

Output:

The screenshot shows the Dev-C++ IDE interface. On the left, the code editor displays a C program named EXP 1 CD.cpp. The code implements a left factoring algorithm on strings A, p1, and p2. On the right, the terminal window shows the execution of the program, prompting for a token and displaying the result of the left factoring process.

Code Editor (EXP 1 CD.cpp):

```
1 #include <stdio.h>
2 #include <string.h>
3 int main() {
4     char A, p1[50], p2[50], common[50];
5     printf("Enter production (A->aβ1|aβ2
6     scanf("%c->%[^]|%s", &A, p1, p2);
7     int i = 0;
8     while (p1[i] == p2[i]) {
9         common[i] = p1[i];
10        i++;
11    }
12    common[i] = '\0';
13    printf("\nAfter Left Factoring:\n");
14    printf("%c -> %s%c\n", A, common, A
```

Terminal Output:

```
Enter token: A->abx|aby
Identifier
-----
Process exited after 3.066 seconds with return value 0
Press any key to continue . . .
```

Compilation Results:

```
Abort Compilation
Compilation results...
-----
- Errors: 0
- Warnings: 0
 Shorten compiler paths
- Output Filename: C:\Users\Reddy\Downloads\EXP 1 CD.exe
- Output Size: 129.61328125 KiB
- Compilation Time: 1.53s
```

Line: 17 Col: 14 Sel: 0 Lines: 19 Length: 466 Insert Done parsing