

8. C Program for Symbol Table Operations

```
#include <stdio.h>
#include <string.h>
struct Symbol {
    char name[20];
    char type[20];
} table[50];
int n = 0;
void insert() {
    printf("Enter name & type: ");
    scanf("%s %s", table[n].name, table[n].type);
    n++;
}
void search() {
    char s[20];
    printf("Enter name to search: ");
    scanf("%s", s);
    for (int i = 0; i < n; i++)
        if (!strcmp(s, table[i].name)) {
            printf("Found: %s (%s)\n", table[i].name, table[i].type);
            return;
        }
    printf("Not Found\n");
}

void display() {
    printf("\nSymbol Table:\n");
    for (int i = 0; i < n; i++)
        printf("%s\t%s\n", table[i].name, table[i].type);
}
```

```

}

int main() {
    int ch;
    while (1) {
        printf("\n1.Insert\n2.Search\n3.Display\n4.Exit\nEnter choice: ");
        scanf("%d", &ch);
        if (ch == 1) insert();
        else if (ch == 2) search();
        else if (ch == 3) display();
        else break;
    }
    return 0;
}

```

Output:

The screenshot shows the Dev-C++ IDE with the following components:

- Source Code Editor:** Displays the C program code. The file is named `EXP 1 CD.cpp`. The code includes `<stdio.h>` and `<string.h>`, defines a `Symbol` struct with `name` and `type` arrays, and implements `insert`, `search`, and `display` functions.
- Compiler Output:** Shows the compilation results. It indicates 0 errors and 0 warnings. The output filename is `C:\Users\Reddy\Downloads\EXP 1 CD.exe`, the output size is 130.5625 KiB, and the compilation time is 0.34s.
- Output Window:** Displays the program's execution output. It shows the menu options (1.Insert, 2.Search, 3.Display, 4.Exit) and the user's input for choices and names. The output also shows the symbol table being displayed, which contains one entry: `x int`.

```

1. Insert
2. Search
3. Display
4. Exit
Enter choice: 1
Enter name & type: x int

1. Insert
2. Search
3. Display
4. Exit
Enter choice: 2
Enter name to search: x
Found: x (int)

1. Insert
2. Search
3. Display
4. Exit
Enter choice: 3

Symbol Table:
x      int

1. Insert
2. Search
3. Display
4. Exit
Enter choice: 4

-----
Process exited after 31.29 seconds with return value 0

```

