

# **Compiler Construction – LAB**

## **Lab Terminal**

**Mini Compiler with generated assembly code**

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**Date: 03<sup>rd</sup> January, 2018**

## Design a mini Compiler and generate its assembly code

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Text.RegularExpressions;
using System.Collections;

namespace WindowsFormsApplication1
{

    public partial class Form1 : Form
    {
        ArrayList States = new ArrayList();
        Stack<String> Stack = new Stack<String>();
        String Parser;
        String[] Col = { "begin", "(", ")", "{", "int", "a", "b", "c", "=", "5", "10", "0", ";", "if", ">", "print",
            "else", "$", "}", "+", "end", "Program", "DecS", "AssS", "IffS", "PriS", "Var", "Const" };

        public Form1()
        {
            InitializeComponent();

        }

        List<List<String>> Symboltable = new List<List<String>>();

        ArrayList LineNumber;
        ArrayList Variables;
        ArrayList KeyWords;
        ArrayList Constants;
        ArrayList finalArray;
        ArrayList tempArray;

        Regex variable_Reg;
        Regex constants_Reg;
        Regex operators_Reg;

        int lexemes_per_line;
        int ST_index;

        Boolean if_deleted;

        private void Compile_Click(object sender, EventArgs e)
        {
            String[] k_ = { "int", "float", "begin", "end", "print", "if", "else" };
            ArrayList key = new ArrayList(k_);
```

```

LineNumber = new ArrayList();
Variables = new ArrayList();
KeyWords = new ArrayList();
Constants = new ArrayList();

finalArray = new ArrayList();
tempArray = new ArrayList();

variable_Reg = new Regex(@"^[A-Za-z|_][A-Za-z|0-9]*$");
constants_Reg = new Regex(@"^[0-9]+([.][0-9]+)?([e]([+|-])?[0-9]+)?$");
operators_Reg = new Regex(@"[+/*=>(){}]");

int L = 1;

Output.Text = "";
ST.Text = "";

Symboltable.Clear();

if_deleted = false;

string strinput = Input.Text;
char[] charinput = strinput.ToCharArray();

//////////////////////Start_Split
Function//////////////////////
#region Input Buffering
for (int itr = 0; itr < charinput.Length; itr++)
{
    Match Match_Variable = variable_Reg.Match(charinput[itr] + "");
    Match Match_Constant = constants_Reg.Match(charinput[itr] + "");
    Match Match_Operator = operators_Reg.Match(charinput[itr] + "");

    if (Match_Variable.Success || Match_Constant.Success)
    {
        tempArray.Add(charinput[itr]);
    }
    if (charinput[itr].Equals(' '))
    {
        if (tempArray.Count != 0)
        {
            int j = 0;
            String fin = "";
            for (; j < tempArray.Count; j++)
            {
                fin += tempArray[j];
            }
            finalArray.Add(fin);
            tempArray.Clear();
        }
    }
}

```

```

    }
    if (Match_Operator.Success)
    {
        if (tempArray.Count != 0)
        {
            int j = 0;
            String fin = "";
            for (; j < tempArray.Count; j++)
            {
                fin += tempArray[j];
            }
            finalArray.Add(fin);
            tempArray.Clear();
        }
        finalArray.Add(charinput[itr] + "");
    }
}
if (tempArray.Count != 0)
{
    String final = "";
    for (int k = 0; k < tempArray.Count; k++)
    {
        final += tempArray[k];
    }
    finalArray.Add(final);
}
#endregion
//////////End_Split
Function//////////
#region Bottom Up Parser
States.Add("Program_begin ( ) { DecS Decs Decs AssS IffS } end");
States.Add("DecS_int Var = Const ;");
States.Add("AssS_Var = Var + Var ;");
States.Add("IffS_if ( Var > Var ) { PriS } else { PriS }");
States.Add("PriS_print Var ;");
States.Add("Var_a");
States.Add("Var_b");
States.Add("Var_c");
States.Add("Const_5");
States.Add("Const_10");
States.Add("Const_0");
Stack.Push("0");
finalArray.Add("$");
int pointer = 0;
#region ParseTable
var dict = new Dictionary<string, Dictionary<String, object>>();
dict.Add("0", new Dictionary<String, object>()
{
    { "begin", "S2" },
    { "(", "" },
    { ")", "" },

```

```

    { "{", "" },
    { "int", "" },
    { "a", "" },
    { "b", "" },
    { "c", "" },
    { "=", "" },
    { "5", "" },
    { "10", "" },
    { "0", "" },
    { ";", "" },
    { "if", "" },
    { ">", "" },
    { "print", "" },
    { "else", "" },
    { "$", "" },
    { "}", "" },
    { "+", "" },
    { "end", "" },
    { "Program", "1" },
    { "DecS", "" },
    { "AssS", "" },
    { "IffS", "" },
    { "PriS", "" },
    { "Var", "" },
    { "Const", "" }
});
dict.Add("1", new Dictionary<String, object>()
{
    { "begin", "" },
    { "(", "" },
    { ")", "" },
    { "{", "" },
    { "int", "" },
    { "a", "" },
    { "b", "" },
    { "c", "" },
    { "=", "" },
    { "5", "" },
    { "10", "" },
    { "0", "" },
    { ";", "" },
    { "if", "" },
    { ">", "" },
    { "print", "" },
    { "else", "" },
    { "$", "Accept" },
    { "}", "" },
    { "+", "" },
    { "end", "" },
    { "Program", "" },
    { "DecS", "" },

```

```

        { "AssS", "" },
        { "IffS", "" },
        { "PriS", "" },
        { "Var", "" },
        { "Const", "" }
    });
    dict.Add("2", new Dictionary<String, object>()
    {
        { "begin", "" },
        { "(", "S3" },
        { ")", "" },
        { "{", "" },
        { "int", "" },
        { "a", "" },
        { "b", "" },
        { "c", "" },
        { "=", "" },
        { "5", "" },
        { "10", "" },
        { "0", "" },
        { ";", "" },
        { "if", "" },
        { ">", "" },
        { "print", "" },
        { "else", "" },
        { "$", "" },
        { "}", "" },
        { "+", "" },
        { "end", "" },
        { "Program", "" },
        { "DecS", "" },
        { "AssS", "" },
        { "IffS", "" },
        { "PriS", "" },
        { "Var", "" },
        { "Const", "" }
    });

    while (true)
    {
        if (!Col.Contains(finalArray[pointer]))
        {
            Output.AppendText("Unable to Parse Unknown Input");
            break;
        }
        Parser = dict[Stack.Peek() + ""][finalArray[pointer] + "" + ""];
        if (Parser.Contains("S"))
        {
            Stack.Push(finalArray[pointer] + "");
            Parser = Parser.TrimStart('S');
            Stack.Push(Parser);
        }
    }

```

```

        pointer++;
        Print_Stack();
    }
    if (Parser.Contains("R"))
    {
        Parser = Parser.TrimStart('R');
        String get = States[Convert.ToInt32(Parser) - 1] + "";
        String[] Splitted = get.Split('_');
        String[] Final_ = Splitted[1].Split(' ');
        int test = Final_.Length;
        for (int i = 0; i < test * 2; i++)
        { Stack.Pop(); }
        String row = Stack.Peek() + "";
        Stack.Push(Splitted[0]);
        Stack.Push(dict[row][Stack.Peek()] + "");
        Print_Stack();
    }
    if (Parser.Contains("Accept"))
    {
        Output.AppendText("Parsed");
        break;
    }
    if (Parser.Equals(""))
    {
        Output.AppendText("Unable to Parse");
        break;
    }
}
finalArray.Remove("$");
finalArray.Remove("begin");
#endregion
////////////////////Pasing_Finished////////////////////
#region Syntax Analyzer
lexemes_per_line = 0;
ST_index = 0;

for (int k = 0; k < finalArray.Count; k++)
{
    if (if_deleted == true)
    {
        k = k - 4;
        if_deleted = false;
    }
    Match Match_Variable = variable_Reg.Match(finalArray[k] + "");
    Match Match_Constant = constants_Reg.Match(finalArray[k] + "");
    Match Match_Operator = operators_Reg.Match(finalArray[k] + "");

    if (Match_Variable.Success)
    {
        if (key.Contains(finalArray[k]))
        {

```

```

        if (finalArray[k].Equals("print"))
        {
            String print_on_Screen = finalArray[k + 1] + "";
            int index = 0;
            for (int i = 0; i < Symboltable.Count; i++)
            {
                for (int j = 0; j < Symboltable[i].Count; j++)
                {
                    if (Symboltable[i][j].Equals(print_on_Screen))
                    { index = i; }
                }
            }
            CodeOutput.Text = Symboltable[index][3];
        }
        Keywords.Add(finalArray[k]); lexemes_per_line++;
    }
    else
    {
        Variables.Add(finalArray[k]);
        if (!LineNumber.Contains(L))
        {
            LineNumber.Add(L);
        }
        lexemes_per_line = lexemes_per_line + 2;
    }
}
if (Match_Constant.Success)
{
    Constants.Add(finalArray[k]); lexemes_per_line++;
}
if (Match_Operator.Success)
{
    if (finalArray[k].Equals(";") || finalArray[k].Equals("(") || finalArray[k].Equals("{") ||
finalArray[k].Equals(")"))
    {
        L++; lexemes_per_line = 0;
    }
    if (operators_Reg.Match(finalArray[k] + "").Success)
    {
        Semantic_Analysis(k);
    }
}
Check_And_Make_Entries();
}
#endregion
//////////Symbol Table Generated //////////
#region Display Symbol Table
for (int j = 0; j < Symboltable.Count; j++)
{
    for (int z = 0; z < Symboltable[j].Count; z++)
    { ST.AppendText(Symboltable[j][z] + "\t"); }
}

```



```

        ST.AppendText("\n");
    }
    #endregion
}

//////////////////////////////////////END//////////////////////////////////////
#region Semantic Analyzer
void Semantic_Analysis(int k)
{
    if (finalArray[k].Equals("+"))
    {
        if (variable_Reg.Match(finalArray[k - 1] + "").Success && variable_Reg.Match(finalArray[k +
1] + "").Success)
        {
            String type = finalArray[k - 4] + "";
            String left_side = finalArray[k - 3] + "";
            int left_side_i = 0;
            int left_side_j = 0;
            String before = finalArray[k - 1] + "";
            int before_i = 0;
            int before_j = 0;
            String after = finalArray[k + 1] + "";
            int after_i = 0;
            int after_j = 0;
            for (int i = 0; i < Symboltable.Count; i++)
            {
                for (int j = 0; j < Symboltable[i].Count; j++)
                {
                    if (Symboltable[i][j].Equals(left_side))
                    { left_side_i = i; left_side_j = j; }
                    if (Symboltable[i][j].Equals(before))
                    { before_i = i; before_j = j; }
                    if (Symboltable[i][j].Equals(after))
                    { after_i = i; after_j = j; }
                }
            }
            if (type.Equals(Symboltable[before_i][2]) && type.Equals(Symboltable[after_i][2]) &&
Symboltable[before_i][2].Equals(Symboltable[after_i][2]))
            {
                int Ans = Convert.ToInt32(Symboltable[before_i][3]) +
Convert.ToInt32(Symboltable[after_i][3]);
                Constants.Add(Ans);
            }
            if (Symboltable[left_side_i][2].Equals(Symboltable[before_i][2]) &&
Symboltable[left_side_i][2].Equals(Symboltable[after_i][2]) &&
Symboltable[before_i][2].Equals(Symboltable[after_i][2]))
            {
                int Ans = Convert.ToInt32(Symboltable[before_i][3]) +
Convert.ToInt32(Symboltable[after_i][3]);
                Constants.RemoveAt(Constants.Count - 1);
                Constants.Add(Ans);
            }
        }
    }
}

```

```

        Symboltable[left_side_i][3] = Ans + "";
    }
}
}
if (finalArray[k].Equals("-"))
{
    if (variable_Reg.Match(finalArray[k - 1] + "").Success && variable_Reg.Match(finalArray[k + 1] + "").Success)
    {
        String type = finalArray[k - 4] + "";
        String left_side = finalArray[k - 3] + "";
        int left_side_i = 0;
        int left_side_j = 0;
        String before = finalArray[k - 1] + "";
        int before_i = 0;
        int before_j = 0;
        String after = finalArray[k + 1] + "";
        int after_i = 0;
        int after_j = 0;
        for (int i = 0; i < Symboltable.Count; i++)
        {
            for (int j = 0; j < Symboltable[i].Count; j++)
            {
                if (Symboltable[i][j].Equals(left_side))
                { left_side_i = i; left_side_j = j; }
                if (Symboltable[i][j].Equals(before))
                { before_i = i; before_j = j; }
                if (Symboltable[i][j].Equals(after))
                { after_i = i; after_j = j; }
            }
        }
        if (type.Equals(Symboltable[before_i][2]) && type.Equals(Symboltable[after_i][2]) &&
            Symboltable[before_i][2].Equals(Symboltable[after_i][2]))
        {
            int Ans = Convert.ToInt32(Symboltable[before_i][3]) -
            Convert.ToInt32(Symboltable[after_i][3]);
            Constants.Add(Ans);
        }
        if (Symboltable[left_side_i][2].Equals(Symboltable[before_i][2]) &&
            Symboltable[left_side_i][2].Equals(Symboltable[after_i][2]) &&
            Symboltable[before_i][2].Equals(Symboltable[after_i][2]))
        {
            int Ans = Convert.ToInt32(Symboltable[before_i][3]) +
            Convert.ToInt32(Symboltable[after_i][3]);
            Constants.RemoveAt(Constants.Count - 1);
            Constants.Add(Ans);
            Symboltable[left_side_i][3] = Ans + "";
        }
    }
}
if (finalArray[k].Equals(">"))

```

```
{
    if (variable_Reg.Match(finalArray[k - 1] + "").Success && variable_Reg.Match(finalArray[k +
1] + "").Success)
    {
        String before = finalArray[k - 1] + "";
        int before_i = 0;
        int before_j = 0;
        String after = finalArray[k + 1] + "";
        int after_i = 0;
        int after_j = 0;
        for (int i = 0; i < Symboltable.Count; i++)
        {
            for (int j = 0; j < Symboltable[i].Count; j++)
            {
                if (Symboltable[i][j].Equals(before))
                { before_i = i; before_j = j; }
                if (Symboltable[i][j].Equals(after))
                { after_i = i; after_j = j; }
            }
        }
        if (Convert.ToInt32(Symboltable[before_i][3]) > Convert.ToInt32(Symboltable[after_i][3]))
        {
            int start_of_else = finalArray.IndexOf("else");
            int end_of_else = finalArray.Count - 1;
            for (int i = end_of_else; i >= start_of_else; i--)
            {
                if (finalArray[i].Equals("{}"))
                {
                    if (i < finalArray.Count - 2)
                    { end_of_else = i; }
                }
            }

            for (int i = start_of_else; i <= end_of_else; i++)
            { finalArray.RemoveAt(start_of_else); }
        }
        else
        {
            int start_of_if = finalArray.IndexOf("if");
            int end_of_if = finalArray.IndexOf("{}");

            for (int i = start_of_if; i <= end_of_if; i++)
            { finalArray.RemoveAt(start_of_if); }
            if_deleted = true;
        }
    }
}
}
```

#endregion  
////////////////////END\_Semantic\_Analysis////////////////////  
#region Make Entry Symbol Table

```

void Check_And_Make_Entries()
{
    KeyWords.Remove("begin"); KeyWords.Remove("end"); KeyWords.Remove("print");
    KeyWords.Remove("if"); KeyWords.Remove("else");
    if (lexemes_per_line - 4 == 0 || lexemes_per_line - 7 == 0)
    {
        if (lexemes_per_line == 7)
        {
            Variables.RemoveAt(Variables.Count - 1); Variables.RemoveAt(Variables.Count - 1);
        }
        for (; ST_index < KeyWords.Count; ST_index++)
        {
            Symboltable.Add(new List<string>());
            Symboltable[ST_index].Add(ST_index + 1 + "");
            Symboltable[ST_index].Add(Variables[ST_index] + "");
            Symboltable[ST_index].Add(KeyWords[ST_index] + "");
            Symboltable[ST_index].Add(Constants[ST_index] + "");
            Symboltable[ST_index].Add(LineNumber[ST_index] + "");
        }
    }
    if (lexemes_per_line - 6 == 0)
    {
        Variables.RemoveAt(Variables.Count - 1); Variables.RemoveAt(Variables.Count - 1);
        Variables.RemoveAt(Variables.Count - 1);
    }
}

#endregion
////////////////////END_Check_And_Make_Entries////////////////////
#region Print Stack
void Print_Stack()
{
    foreach (String i in Stack)
    {
        Output.AppendText(i);
    }
    Output.AppendText("\n");
}

#endregion
}
}

```

# Output

```
begin()
{
    int a = 5;
    int b = 10;
    int c = 0;
    if (c > a)
    {
        print a;
    }
    else
    {
    }
```

|   |   |     |    |   |
|---|---|-----|----|---|
| 1 | a | int | 5  | 3 |
| 2 | b | int | 10 | 4 |
| 3 | c | int | 15 | 5 |

button 1

2begin0  
3/2begin0  
4/3/2begin0  
5/4/3/2begin0  
13int5/4/3/2begin0  
40a13int5/4/3/2begin0  
14Var13int5/4/3/2begin0  
15=14Var13int5/4/3/2begin0  
41515=14Var13int5/4/3/2begin0  
16Const15=14Var13int5/4/3/2begin0  
17.16Const15=14Var13int5/4/3/2begin0  
6DecS5/4/3/2begin0  
13int6DecS5/4/3/2begin0  
42b13int6DecS5/4/3/2begin0  
14Var13int6DecS5/4/3/2begin0  
15=14Var13int6DecS5/4/3/2begin0  
431015=14Var13int6DecS5/4/3/2begin0  
16Const15=14Var13int6DecS5/4/3/2begin0  
17.16Const15=14Var13int6DecS5/4/3/2begin0  
7DecS6DecS5/4/3/2begin0  
13int7DecS6DecS5/4/3/2begin0  
44c13int7DecS6DecS5/4/3/2begin0  
14Var13int7DecS6DecS5/4/3/2begin0  
15=14Var13int7DecS6DecS5/4/3/2begin0  
45015=14Var13int7DecS6DecS5/4/3/2begin0  
16Const15=14Var13int7DecS6DecS5/4/3/2begin0  
17.16Const15=14Var13int7DecS6DecS5/4/3/2begin0  
8DecS7DecS6DecS5/4/3/2begin0  
44c8DecS7DecS6DecS5/4/3/2begin0  
18Var8DecS7DecS6DecS5/4/3/2begin0  
19=18Var8DecS7DecS6DecS5/4/3/2begin0

5

# Assembly Code

```
1430:    dict.Add("41", new Dictionary<String, object>())
1431:    {
1432:        { "begin", "R9" },
1433:        { "(", "R9" },
1434:        { ")", "R9" },
1435:        { "{", "R9" },
1436:        { "int", "R9" },
1437:        { "a", "R9" },
1438:        { "b", "R9" },
1439:        { "c", "R9" },
1440:        { "=", "R9" },
1441:        { "5", "R9" },
1442:        { "10", "R9" },
1443:        { "0", "R9" },
1444:        { ";", "R9" },
1445:        { "if", "R9" },
1446:        { ">", "R9" },
1447:        { "print", "R9" },
1448:        { "else", "R9" },
1449:        { "$", "R9" },
1450:        { "}", "R9" },
1451:        { "+", "R9" },
1452:        { "end", "R9" },
1453:        { "Program", "" },
1454:        { "DecS", "" },
1455:        { "AssS", "" },
1456:        { "IffS", "" },
1457:        { "PriS", "" },
1458:        { "Var", "" },
1459:        { "Const", "" }
1460:    });
02D3C70E BE D9 44 6C 90    mov     esi,906C44D9h
02D3C713 FF 35 08 23 E6 03    push    dword ptr ds:[3E62308h]
02D3C719 8B 15 DC 23 E6 03    mov     edx,dword ptr ds:[3E623DCh]
02D3C71F 8B 8D BC FB FF FF    mov     ecx,dword ptr [ebp-444h]
02D3C725 39 09                cmp     dword ptr [ecx],ecx
02D3C727 E8 A4 D9 44 6C    call    6F18A0D0
02D3C72C 90                nop
02D3C72D FF B5 BC FB FF FF    push    dword ptr [ebp-444h]
02D3C733 8B 8D B8 FB FF FF    mov     ecx,dword ptr [ebp-448h]
02D3C739 8B 95 B4 FB FF FF    mov     edx,dword ptr [ebp-44Ch]
02D3C73F 39 09                cmp     dword ptr [ecx],ecx
02D3C741 E8 8A D9 44 6C    call    6F18A0D0
02D3C746 90                nop
1461:    dict.Add("42", new Dictionary<String, object>())
1462:    {
```

```

1463:      { "begin", "R7" },
1464:      { "(", "R7" },
1465:      { ")", "R7" },
1466:      { "{", "R7" },
1467:      { "int", "R7" },
1468:      { "a", "R7" },
1469:      { "b", "R7" },
1470:      { "c", "R7" },
1471:      { "=", "R7" },
1472:      { "5", "R7" },
1473:      { "10", "R7" },
1474:      { "0", "R7" },
1475:      { ";", "R7" },
1476:      { "if", "R7" },
1477:      { ">", "R7" },
1478:      { "print", "R7" },
1479:      { "else", "R7" },
1480:      { "$", "R7" },
1481:      { "}", "R7" },
1482:      { "+", "R7" },
1483:      { "end", "R7" },
1484:      { "Program", "" },
1485:      { "DecS", "" },
1486:      { "AssS", "" },
1487:      { "IffS", "" },
1488:      { "PriS", "" },
1489:      { "Var", "" },
1490:      { "Const", "" }
1491:  });

```

```

02D3C747 B9 4C B4 D8 6E  mov     ecx,6ED8B44Ch
02D3C74C E8 A3 69 E2 FF  call    02B630F4
02D3C751 89 85 B0 FB FF FF  mov     dword ptr [ebp-450h],eax
02D3C757 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C75D E8 16 D8 3F 6C  call    6F139F78
02D3C762 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C768 8B 15 74 23 E6 03  mov     edx,dword ptr ds:[3E62374h]
02D3C76E 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C774 39 09             cmp     dword ptr [ecx],ecx
02D3C776 E8 55 D9 44 6C  call    6F18A0D0
02D3C77B 90             nop
02D3C77C 8B 45 A4             mov     eax,dword ptr [ebp-5Ch]
02D3C77F 89 85 AC FB FF FF  mov     dword ptr [ebp-454h],eax
02D3C785 8B 05 74 95 E6 03  mov     eax,dword ptr ds:[3E69574h]
02D3C78B 89 85 A8 FB FF FF  mov     dword ptr [ebp-458h],eax
02D3C791 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C797 8B 15 78 23 E6 03  mov     edx,dword ptr ds:[3E62378h]
02D3C79D 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C7A3 39 09             cmp     dword ptr [ecx],ecx
02D3C7A5 E8 26 D9 44 6C  call    6F18A0D0
02D3C7AA 90             nop
02D3C7AB FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]

```



```

02D3C7B1 8B 15 7C 23 E6 03  mov     edx,dword ptr ds:[3E6237Ch]
02D3C7B7 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C7BD 39 09                cmp     dword ptr [ecx],ecx
02D3C7BF E8 0C D9 44 6C    call    6F18A0D0
02D3C7C4 90                nop
02D3C7C5 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C7CB 8B 15 80 23 E6 03  mov     edx,dword ptr ds:[3E62380h]
02D3C7D1 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C7D7 39 09                cmp     dword ptr [ecx],ecx
02D3C7D9 E8 F2 D8 44 6C    call    6F18A0D0
02D3C7DE 90                nop
02D3C7DF FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C7E5 8B 15 84 23 E6 03  mov     edx,dword ptr ds:[3E62384h]
02D3C7EB 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C7F1 39 09                cmp     dword ptr [ecx],ecx
02D3C7F3 E8 D8 D8 44 6C    call    6F18A0D0
02D3C7F8 90                nop
02D3C7F9 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C7FF 8B 15 88 23 E6 03  mov     edx,dword ptr ds:[3E62388h]
02D3C805 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C80B 39 09                cmp     dword ptr [ecx],ecx
02D3C80D E8 BE D8 44 6C    call    6F18A0D0
02D3C812 90                nop
02D3C813 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C819 8B 15 8C 23 E6 03  mov     edx,dword ptr ds:[3E6238Ch]
02D3C81F 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C825 39 09                cmp     dword ptr [ecx],ecx
02D3C827 E8 A4 D8 44 6C    call    6F18A0D0
02D3C82C 90                nop
02D3C82D FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C833 8B 15 90 23 E6 03  mov     edx,dword ptr ds:[3E62390h]
02D3C839 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C83F 39 09                cmp     dword ptr [ecx],ecx
02D3C841 E8 8A D8 44 6C    call    6F18A0D0
02D3C846 90                nop
02D3C847 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C84D 8B 15 94 23 E6 03  mov     edx,dword ptr ds:[3E62394h]
02D3C853 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C859 39 09                cmp     dword ptr [ecx],ecx
02D3C85B E8 70 D8 44 6C    call    6F18A0D0
02D3C860 90                nop
02D3C861 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C867 8B 15 98 23 E6 03  mov     edx,dword ptr ds:[3E62398h]
02D3C86D 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C873 39 09                cmp     dword ptr [ecx],ecx
02D3C875 E8 56 D8 44 6C    call    6F18A0D0
02D3C87A 90                nop
02D3C87B FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C881 8B 15 9C 23 E6 03  mov     edx,dword ptr ds:[3E6239Ch]
02D3C887 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C88D 39 09                cmp     dword ptr [ecx],ecx

```

```

02D3C88F E8 3C D8 44 6C    call    6F18A0D0
02D3C894 90                nop
02D3C895 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C89B 8B 15 A0 23 E6 03  mov     edx,dword ptr ds:[3E623A0h]
02D3C8A1 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C8A7 39 09                cmp     dword ptr [ecx],ecx
02D3C8A9 E8 22 D8 44 6C    call    6F18A0D0
02D3C8AE 90                nop
02D3C8AF FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C8B5 8B 15 5C 23 E6 03  mov     edx,dword ptr ds:[3E6235Ch]
02D3C8BB 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C8C1 39 09                cmp     dword ptr [ecx],ecx
02D3C8C3 E8 08 D8 44 6C    call    6F18A0D0
02D3C8C8 90                nop
02D3C8C9 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C8CF 8B 15 A4 23 E6 03  mov     edx,dword ptr ds:[3E623A4h]
02D3C8D5 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C8DB 39 09                cmp     dword ptr [ecx],ecx
02D3C8DD E8 EE D7 44 6C    call    6F18A0D0
02D3C8E2 90                nop
02D3C8E3 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C8E9 8B 15 A8 23 E6 03  mov     edx,dword ptr ds:[3E623A8h]
02D3C8EF 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C8F5 39 09                cmp     dword ptr [ecx],ecx
02D3C8F7 E8 D4 D7 44 6C    call    6F18A0D0
02D3C8FC 90                nop
02D3C8FD FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C903 8B 15 AC 23 E6 03  mov     edx,dword ptr ds:[3E623ACh]
02D3C909 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C90F 39 09                cmp     dword ptr [ecx],ecx
02D3C911 E8 BA D7 44 6C    call    6F18A0D0
02D3C916 90                nop
02D3C917 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C91D 8B 15 B0 23 E6 03  mov     edx,dword ptr ds:[3E623B0h]
02D3C923 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C929 39 09                cmp     dword ptr [ecx],ecx
02D3C92B E8 A0 D7 44 6C    call    6F18A0D0
02D3C930 90                nop
02D3C931 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C937 8B 15 B4 23 E6 03  mov     edx,dword ptr ds:[3E623B4h]
02D3C93D 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C943 39 09                cmp     dword ptr [ecx],ecx
02D3C945 E8 86 D7 44 6C    call    6F18A0D0
02D3C94A 90                nop
02D3C94B FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C951 8B 15 B8 23 E6 03  mov     edx,dword ptr ds:[3E623B8h]
02D3C957 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C95D 39 09                cmp     dword ptr [ecx],ecx
02D3C95F E8 6C D7 44 6C    call    6F18A0D0
02D3C964 90                nop
02D3C965 FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]

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02D3C96B 8B 15 BC 23 E6 03  mov     edx,dword ptr ds:[3E623BCh]
02D3C971 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C977 39 09                cmp     dword ptr [ecx],ecx
02D3C979 E8 52 D7 44 6C  call    6F18A0D0
02D3C97E 90                nop
02D3C97F FF 35 70 95 E6 03  push    dword ptr ds:[3E69570h]
02D3C985 8B 15 C0 23 E6 03  mov     edx,dword ptr ds:[3E623C0h]
02D3C98B 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C991 39 09                cmp     dword ptr [ecx],ecx
02D3C993 E8 38 D7 44 6C  call    6F18A0D0
02D3C998 90                nop
02D3C999 FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3C99F 8B 15 C4 23 E6 03  mov     edx,dword ptr ds:[3E623C4h]
02D3C9A5 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C9AB 39 09                cmp     dword ptr [ecx],ecx
02D3C9AD E8 1E D7 44 6C  call    6F18A0D0
02D3C9B2 90                nop
02D3C9B3 FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3C9B9 8B 15 C8 23 E6 03  mov     edx,dword ptr ds:[3E623C8h]
02D3C9BF 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C9C5 39 09                cmp     dword ptr [ecx],ecx
02D3C9C7 E8 04 D7 44 6C  call    6F18A0D0
02D3C9CC 90                nop
02D3C9CD FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3C9D3 8B 15 CC 23 E6 03  mov     edx,dword ptr ds:[3E623CCh]
02D3C9D9 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C9DF 39 09                cmp     dword ptr [ecx],ecx
02D3C9E1 E8 EA D6 44 6C  call    6F18A0D0
02D3C9E6 90                nop
02D3C9E7 FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3C9ED 8B 15 D0 23 E6 03  mov     edx,dword ptr ds:[3E623D0h]
02D3C9F3 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3C9F9 39 09                cmp     dword ptr [ecx],ecx
02D3C9FB E8 D0 D6 44 6C  call    6F18A0D0
02D3CA00 90                nop
02D3CA01 FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3CA07 8B 15 D4 23 E6 03  mov     edx,dword ptr ds:[3E623D4h]
02D3CA0D 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3CA13 39 09                cmp     dword ptr [ecx],ecx
02D3CA15 E8 B6 D6 44 6C  call    6F18A0D0
1461:      dict.Add("42", new Dictionary<String, object>())
1462:      {
1463:          { "begin", "R7" },
1464:          { "(", "R7" },
1465:          { ")", "R7" },
1466:          { "{", "R7" },
1467:          { "int", "R7" },
1468:          { "a", "R7" },
1469:          { "b", "R7" },
1470:          { "c", "R7" },
1471:          { "=", "R7" },

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1472:      { "5", "R7" },
1473:      { "10", "R7" },
1474:      { "0", "R7" },
1475:      { ";", "R7" },
1476:      { "if", "R7" },
1477:      { ">", "R7" },
1478:      { "print", "R7" },
1479:      { "else", "R7" },
1480:      { "$", "R7" },
1481:      { "}", "R7" },
1482:      { "+", "R7" },
1483:      { "end", "R7" },
1484:      { "Program", "" },
1485:      { "DecS", "" },
1486:      { "AssS", "" },
1487:      { "IffS", "" },
1488:      { "PriS", "" },
1489:      { "Var", "" },
1490:      { "Const", "" }
1491:  });
02D3CA1A 90          nop
02D3CA1B FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3CA21 8B 15 D8 23 E6 03  mov     edx,dword ptr ds:[3E623D8h]
02D3CA27 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3CA2D 39 09          cmp     dword ptr [ecx],ecx
02D3CA2F E8 9C D6 44 6C    call    6F18A0D0
02D3CA34 90          nop
02D3CA35 FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3CA3B 8B 15 DC 23 E6 03  mov     edx,dword ptr ds:[3E623DCh]
02D3CA41 8B 8D B0 FB FF FF  mov     ecx,dword ptr [ebp-450h]
02D3CA47 39 09          cmp     dword ptr [ecx],ecx
02D3CA49 E8 82 D6 44 6C    call    6F18A0D0
02D3CA4E 90          nop
02D3CA4F FF B5 B0 FB FF FF  push    dword ptr [ebp-450h]
02D3CA55 8B 8D AC FB FF FF  mov     ecx,dword ptr [ebp-454h]
02D3CA5B 8B 95 A8 FB FF FF  mov     edx,dword ptr [ebp-458h]
02D3CA61 39 09          cmp     dword ptr [ecx],ecx
02D3CA63 E8 68 D6 44 6C    call    6F18A0D0
02D3CA68 90          nop
1492:      dict.Add("43", new Dictionary<String, object>())
1493:      {
1494:          { "begin", "R10" },
1495:          { "(", "R10" },
1496:          { ")", "R10" },
1497:          { "{", "R10" },
1498:          { "int", "R10" },
1499:          { "a", "R10" },
1500:          { "b", "R10" },
1501:          { "c", "R10" },
1502:          { "=", "R10" },
1503:          { "5", "R10" },

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1504:      { "10", "R10" },
1505:      { "0", "R10" },
1506:      { ";", "R10" },
1507:      { "if", "R10" },
1508:      { ">", "R10" },
1509:      { "print", "R10" },
1510:      { "else", "R10" },
1511:      { "$", "R10" },
1512:      { "}", "R10" },
1513:      { "+", "R10" },
1514:      { "end", "R10" },
1515:      { "Program", "" },
1516:      { "DecS", "" },
1517:      { "AssS", "" },
1518:      { "IffS", "" },
1519:      { "PriS", "" },
1520:      { "Var", "" },
1521:      { "Const", "" }
1522:  });
02D3CA69 B9 4C B4 D8 6E  mov     ecx,6ED8B44Ch
02D3CA6E E8 81 66 E2 FF  call    02B630F4
02D3CA73 89 85 A4 FB FF FF  mov     dword ptr [ebp-45Ch],eax
02D3CA79 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CA7F E8 F4 D4 3F 6C      call    6F139F78
02D3CA84 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CA8A 8B 15 74 23 E6 03  mov     edx,dword ptr ds:[3E62374h]
02D3CA90 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CA96 39 09              cmp     dword ptr [ecx],ecx
02D3CA98 E8 33 D6 44 6C      call    6F18A0D0
02D3CA9D 90              nop
02D3CA9E 8B 45 A4          mov     eax,dword ptr [ebp-5Ch]
02D3CAA1 89 85 A0 FB FF FF  mov     dword ptr [ebp-460h],eax
02D3CAA7 8B 05 7C 95 E6 03  mov     eax,dword ptr ds:[3E6957Ch]
02D3CAAD 89 85 9C FB FF FF  mov     dword ptr [ebp-464h],eax
02D3CAB3 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CAB9 8B 15 78 23 E6 03  mov     edx,dword ptr ds:[3E62378h]
02D3CABF 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CAC5 39 09              cmp     dword ptr [ecx],ecx
02D3CAC7 E8 04 D6 44 6C      call    6F18A0D0
02D3CACC 90              nop
02D3CACD FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CAD3 8B 15 7C 23 E6 03  mov     edx,dword ptr ds:[3E6237Ch]
02D3CAD9 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CADF 39 09              cmp     dword ptr [ecx],ecx
02D3CAE1 E8 EA D5 44 6C      call    6F18A0D0
02D3CAE6 90              nop
02D3CAE7 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CAED 8B 15 80 23 E6 03  mov     edx,dword ptr ds:[3E62380h]
02D3CAF3 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CAF9 39 09              cmp     dword ptr [ecx],ecx
02D3CAFB E8 D0 D5 44 6C      call    6F18A0D0

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```

02D3CB00 90          nop
02D3CB01 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CB07 8B 15 84 23 E6 03  mov     edx,dword ptr ds:[3E62384h]
02D3CB0D 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CB13 39 09          cmp     dword ptr [ecx],ecx
02D3CB15 E8 B6 D5 44 6C  call    6F18A0D0
02D3CB1A 90          nop
02D3CB1B FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CB21 ??          ?? ??
02D3CB22 ??          ?? ??
02D3CB23 ??          ?? ??
02D3CB5B ??          ?? ??
02D3CB5C 8D A4 FB FF FF 39 09  lea     esp,[ebx+edi*8+939FFFFh]
02D3CB63 E8 68 D5 44 6C  call    6F18A0D0
02D3CB68 90          nop
02D3CB69 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CB6F 8B 15 94 23 E6 03  mov     edx,dword ptr ds:[3E62394h]
02D3CB75 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CB7B 39 09          cmp     dword ptr [ecx],ecx
02D3CB7D E8 4E D5 44 6C  call    6F18A0D0
02D3CB82 90          nop
02D3CB83 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CB89 8B 15 98 23 E6 03  mov     edx,dword ptr ds:[3E62398h]
02D3CB8F 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CB95 39 09          cmp     dword ptr [ecx],ecx
02D3CB97 E8 34 D5 44 6C  call    6F18A0D0
02D3CB9C 90          nop
02D3CB9D FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CBA3 8B 15 9C 23 E6 03  mov     edx,dword ptr ds:[3E6239Ch]
02D3CBA9 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CBAF 39 09          cmp     dword ptr [ecx],ecx
02D3CBB1 E8 1A D5 44 6C  call    6F18A0D0
02D3CBB6 90          nop
02D3CBB7 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CBBD 8B 15 A0 23 E6 03  mov     edx,dword ptr ds:[3E623A0h]
02D3CBC3 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CBC9 39 09          cmp     dword ptr [ecx],ecx
02D3CBCB E8 00 D5 44 6C  call    6F18A0D0
02D3CBD0 90          nop
02D3CBD1 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CBD7 8B 15 5C 23 E6 03  mov     edx,dword ptr ds:[3E6235Ch]
02D3CBDD 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CBE3 39 09          cmp     dword ptr [ecx],ecx
02D3CBE5 E8 E6 D4 44 6C  call    6F18A0D0
02D3CBEA 90          nop
02D3CBEB FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CBF1 8B 15 A4 23 E6 03  mov     edx,dword ptr ds:[3E623A4h]
02D3CBF7 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CBFD 39 09          cmp     dword ptr [ecx],ecx
02D3CBFF E8 CC D4 44 6C  call    6F18A0D0
02D3CC04 90          nop

```

```

02D3CC05 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CC0B 8B 15 A8 23 E6 03  mov     edx,dword ptr ds:[3E623A8h]
02D3CC11 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CC17 39 09                cmp     dword ptr [ecx],ecx
02D3CC19 E8 B2 D4 44 6C  call    6F18A0D0
02D3CC1E 90                nop
02D3CC1F FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CC25 8B 15 AC 23 E6 03  mov     edx,dword ptr ds:[3E623ACh]
02D3CC2B 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CC31 39 09                cmp     dword ptr [ecx],ecx
02D3CC33 E8 98 D4 44 6C  call    6F18A0D0
02D3CC38 90                nop
02D3CC39 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CC3F 8B 15 B0 23 E6 03  mov     edx,dword ptr ds:[3E623B0h]
02D3CC45 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CC4B 39 09                cmp     dword ptr [ecx],ecx
02D3CC4D E8 7E D4 44 6C  call    6F18A0D0
02D3CC52 90                nop
02D3CC53 FF 35 78 95 E6 03  push    dword ptr ds:[3E69578h]
02D3CC59 8B 15 B4 23 E6 03  mov     edx,dword ptr ds:[3E623B4h]
1492:      dict.Add("43", new Dictionary<String, object>())
1493:      {
1494:          { "begin", "R10" },
1495:          { "(", "R10" },
1496:          { ")", "R10" },
1497:          { "{", "R10" },
1498:          { "int", "R10" },
1499:          { "a", "R10" },
1500:          { "b", "R10" },
1501:          { "c", "R10" },
1502:          { "=", "R10" },
1503:          { "5", "R10" },
1504:          { "10", "R10" },
1505:          { "0", "R10" },
1506:          { ";", "R10" },
1507:          { "if", "R10" },
1508:          { ">", "R10" },
1509:          { "print", "R10" },
1510:          { "else", "R10" },
1511:          { "$", "R10" },
1512:          { "}", "R10" },
1513:          { "+", "R10" },
1514:          { "end", "R10" },
1515:          { "Program", "" },
1516:          { "DecS", "" },
1517:          { "AssS", "" },
1518:          { "IffS", "" },
1519:          { "PriS", "" },
1520:          { "Var", "" },
1521:          { "Const", "" }
1522:      });

```

```

02D3CC5F 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CC65 39 09              cmp     dword ptr [ecx],ecx
02D3CC67 E8 64 D4 44 6C  call    6F18A0D0
02D3CC6C 90              nop
02D3CC6D FF 35 78 95 E6 03  push   dword ptr ds:[3E69578h]
02D3CC73 8B 15 B8 23 E6 03  mov     edx,dword ptr ds:[3E623B8h]
02D3CC79 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CC7F 39 09              cmp     dword ptr [ecx],ecx
02D3CC81 E8 4A D4 44 6C  call    6F18A0D0
02D3CC86 90              nop
02D3CC87 FF 35 78 95 E6 03  push   dword ptr ds:[3E69578h]
02D3CC8D 8B 15 BC 23 E6 03  mov     edx,dword ptr ds:[3E623BCh]
02D3CC93 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CC99 39 09              cmp     dword ptr [ecx],ecx
02D3CC9B E8 30 D4 44 6C  call    6F18A0D0
02D3CCA0 90              nop
02D3CCA1 FF 35 78 95 E6 03  push   dword ptr ds:[3E69578h]
02D3CCA7 8B 15 C0 23 E6 03  mov     edx,dword ptr ds:[3E623C0h]
02D3CCAD 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CCB3 39 09              cmp     dword ptr [ecx],ecx
02D3CCB5 E8 16 D4 44 6C  call    6F18A0D0
02D3CCBA 90              nop
02D3CCBB FF 35 08 23 E6 03  push   dword ptr ds:[3E62308h]
02D3CCC1 8B 15 C4 23 E6 03  mov     edx,dword ptr ds:[3E623C4h]
02D3CCC7 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CCCD 39 09              cmp     dword ptr [ecx],ecx
02D3CCCF E8 FC D3 44 6C  call    6F18A0D0
02D3CCD4 90              nop
02D3CCD5 FF 35 08 23 E6 03  push   dword ptr ds:[3E62308h]
02D3CCDB 8B 15 C8 23 E6 03  mov     edx,dword ptr ds:[3E623C8h]
02D3CCE1 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CCE7 39 09              cmp     dword ptr [ecx],ecx
02D3CCE9 E8 E2 D3 44 6C  call    6F18A0D0
02D3CCEE 90              nop
02D3CCEF FF 35 08 23 E6 03  push   dword ptr ds:[3E62308h]
02D3CCF5 8B 15 CC 23 E6 03  mov     edx,dword ptr ds:[3E623CCh]
02D3CCFB 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CD01 39 09              cmp     dword ptr [ecx],ecx
02D3CD03 E8 C8 D3 44 6C  call    6F18A0D0
02D3CD08 90              nop
02D3CD09 FF 35 08 23 E6 03  push   dword ptr ds:[3E62308h]
02D3CD0F 8B 15 D0 23 E6 03  mov     edx,dword ptr ds:[3E623D0h]
02D3CD15 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CD1B 39 09              cmp     dword ptr [ecx],ecx
02D3CD1D E8 AE D3 44 6C  call    6F18A0D0
02D3CD22 90              nop
02D3CD23 FF 35 08 23 E6 03  push   dword ptr ds:[3E62308h]
02D3CD29 8B 15 D4 23 E6 03  mov     edx,dword ptr ds:[3E623D4h]
02D3CD2F 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CD35 39 09              cmp     dword ptr [ecx],ecx
02D3CD37 E8 94 D3 44 6C  call    6F18A0D0

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02D3CD3C 90          nop
02D3CD3D FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3CD43 8B 15 D8 23 E6 03  mov     edx,dword ptr ds:[3E623D8h]
02D3CD49 8B 8D A4 FB FF FF  mov     ecx,dword ptr [ebp-45Ch]
02D3CD4F 39 09          cmp     dword ptr [ecx],ecx
02D3CD51 E8 7A D3 44 6C  call    6F18A0D0
02D3CD56 90          nop
02D3CD57 FF 35 08 23 E6 03  push    dword ptr ds:[3E62308h]
02D3CD96 85 98 FB FF FF 8B  test    dword ptr [eax-74000005h],ebx
02D3CD9C 8D 98 FB FF FF E8  lea     ebx,[eax-17000005h]
02D3CDA2 ??          ?? ??
////////////////////////Pasing_Finished////////////////////////////////////
1632:      #region Syntax Analyzer
1633:      lexemes_per_line = 0;
02D3DA68 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DA6B 33 D2          xor     edx,edx
02D3DA6D 89 90 90 01 00 00  mov     dword ptr [eax+190h],edx
1634:      ST_index = 0;
02D3DA73 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DA76 33 D2          xor     edx,edx
02D3DA78 89 90 94 01 00 00  mov     dword ptr [eax+194h],edx
1635:
1636:      for (int k = 0; k < finalArray.Count; k++)
02D3DA7E 33 D2          xor     edx,edx
02D3DA80 89 95 1C FF FF FF  mov     dword ptr [ebp-0E4h],edx
02D3DA86 90          nop
02D3DA87 E9 FF 07 00 00  jmp     02D3E28B
1637:      {
02D3DA8C 90          nop
1638:      if (if_deleted == true)
02D3DA8D 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DA90 0F B6 80 98 01 00 00 movzx    eax,byte ptr [eax+198h]
02D3DA97 89 85 0C FF FF FF  mov     dword ptr [ebp-0F4h],eax
02D3DA9D 83 BD 0C FF FF FF 00 cmp     dword ptr [ebp-0F4h],0
02D3DAA4 74 13          je      02D3DAB9
1639:      {
02D3DAA6 90          nop
1640:      k = k - 4;
02D3DAA7 83 85 1C FF FF FF FC add     dword ptr [ebp-0E4h],0FFFFFFFCh
1641:      if_deleted = false;
02D3DAAE 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DAB1 C6 80 98 01 00 00 00 mov     byte ptr [eax+198h],0
1642:      }
02D3DAB8 90          nop
1643:      Match Match_Variable = variable_Reg.Match(finalArray[k] + "");
02D3DAB9 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DABC 8B 80 6C 01 00 00  mov     eax,dword ptr [eax+16Ch]
02D3DAC2 89 85 30 FB FF FF  mov     dword ptr [ebp-4D0h],eax
02D3DAC8 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DACB 8B 88 64 01 00 00  mov     ecx,dword ptr [eax+164h]
02D3DAD1 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]

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02D3DAD7 8B 01      mov     eax,dword ptr [ecx]
02D3DAD9 8B 40 2C      mov     eax,dword ptr [eax+2Ch]
1647:          if (Match_Variable.Success)
02D3DBDF 8B 8D 18 FF FF FF  mov     ecx,dword ptr [ebp-0E8h]
02D3DBE5 39 09          cmp     dword ptr [ecx],ecx
02D3DBE7 E8 A4 2C 85 6B   call    6E590890
02D3DBEC 89 85 00 FB FF FF  mov     dword ptr [ebp-500h],eax
02D3DBF2 0F B6 85 00 FB FF FF movzx   eax,byte ptr [ebp-500h]
02D3DBF9 89 85 08 FF FF FF  mov     dword ptr [ebp-0F8h],eax
02D3DBFF 83 BD 08 FF FF FF 00 cmp     dword ptr [ebp-0F8h],0
02D3DC06 0F 84 F7 03 00 00 je      02D3E003
1648:          {
02D3DC0C 90          nop
1649:          if (key.Contains(finalArray[k]))
02D3DC0D 8B 45 B8      mov     eax,dword ptr [ebp-48h]
02D3DC10 89 85 B0 FA FF FF  mov     dword ptr [ebp-550h],eax
02D3DC16 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DC19 8B 88 64 01 00 00 mov     ecx,dword ptr [eax+164h]
02D3DC1F 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]
02D3DC25 8B 01      mov     eax,dword ptr [ecx]
02D3DC27 8B 40 2C      mov     eax,dword ptr [eax+2Ch]
02D3DC2A FF 50 0C      call    dword ptr [eax+0Ch]
02D3DC2D 89 85 AC FA FF FF  mov     dword ptr [ebp-554h],eax
02D3DC33 8B 8D B0 FA FF FF  mov     ecx,dword ptr [ebp-550h]
02D3DC39 8B 95 AC FA FF FF  mov     edx,dword ptr [ebp-554h]
02D3DC3F 8B 01      mov     eax,dword ptr [ecx]
02D3DC41 8B 40 30      mov     eax,dword ptr [eax+30h]
02D3DC44 FF 50 10      call    dword ptr [eax+10h]
02D3DC47 89 85 A8 FA FF FF  mov     dword ptr [ebp-558h],eax
02D3DC4D 0F B6 85 A8 FA FF FF movzx   eax,byte ptr [ebp-558h]
02D3DC54 89 85 04 FF FF FF  mov     dword ptr [ebp-0FCh],eax
02D3DC5A 83 BD 04 FF FF FF 00 cmp     dword ptr [ebp-0FCh],0
02D3DC61 0F 84 87 02 00 00 je      02D3DEEE
1650:          {
02D3DC67 90          nop
1651:          if (finalArray[k].Equals("print"))
02D3DC68 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DC6B 8B 88 64 01 00 00 mov     ecx,dword ptr [eax+164h]
02D3DC71 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]
02D3DC77 8B 01      mov     eax,dword ptr [ecx]
02D3DC79 8B 40 2C      mov     eax,dword ptr [eax+2Ch]
02D3DC7C FF 50 0C      call    dword ptr [eax+0Ch]
02D3DC7F 89 85 8C FA FF FF  mov     dword ptr [ebp-574h],eax
02D3DC85 8B 15 AC 23 E6 03 mov     edx,dword ptr ds:[3E623ACh]
02D3DC8B 8B 8D 8C FA FF FF  mov     ecx,dword ptr [ebp-574h]
02D3DC91 8B 01      mov     eax,dword ptr [ecx]
02D3DC93 8B 40 28      mov     eax,dword ptr [eax+28h]
02D3DC96 FF 50 04      call    dword ptr [eax+4]
02D3DC99 89 85 88 FA FF FF  mov     dword ptr [ebp-578h],eax
02D3DC9F 0F B6 85 88 FA FF FF movzx   eax,byte ptr [ebp-578h]
02D3DCA6 89 85 00 FF FF FF  mov     dword ptr [ebp-100h],eax

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1651:          if (finalArray[k].Equals("print"))
02D3DCAC 83 BD 00 FF FF FF 00 cmp     dword ptr [ebp-100h],0
02D3DCB3 0F 84 DE 01 00 00 je      02D3DE97
1652:          {
02D3DCB9 90          nop
1653:          String print_on_Screen = finalArray[k + 1] + "";
02D3DCBA 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DCBD 8B 88 64 01 00 00 mov     ecx,dword ptr [eax+164h]
02D3DCC3 8B 95 1C FF FF FF mov     edx,dword ptr [ebp-0E4h]
02D3DCC9 42          inc     edx
02D3DCCA 8B 01      mov     eax,dword ptr [ecx]
02D3DCCC 8B 40 2C      mov     eax,dword ptr [eax+2Ch]
02D3DCCF FF 50 0C      call    dword ptr [eax+0Ch]
02D3DCD2 89 85 78 FA FF FF mov     dword ptr [ebp-588h],eax
02D3DCD8 8B 8D 78 FA FF FF mov     ecx,dword ptr [ebp-588h]
02D3DCDE E8 BD A6 AE 6C call    6F8283A0
02D3DCE3 89 85 74 FA FF FF mov     dword ptr [ebp-58Ch],eax
02D3DCE9 8B 85 74 FA FF FF mov     eax,dword ptr [ebp-58Ch]
02D3DCEF 89 85 FC FE FF FF mov     dword ptr [ebp-104h],eax
1654:          int index = 0;
02D3DCF5 33 D2      xor     edx,edx
02D3DCF7 89 95 F8 FE FF FF mov     dword ptr [ebp-108h],edx
1655:          for (int i = 0; i < Symboltable.Count; i++)
02D3DCFD 33 D2      xor     edx,edx
02D3DCFF 89 95 F4 FE FF FF mov     dword ptr [ebp-10Ch],edx
02D3DD05 90          nop
02D3DD06 E9 ED 00 00 00 jmp     02D3DDF8
1656:          {
02D3DD0B 90          nop
1657:          for (int j = 0; j < Symboltable[i].Count; j++)
02D3DD0C 33 D2      xor     edx,edx
02D3DD0E 89 95 F0 FE FF FF mov     dword ptr [ebp-110h],edx
02D3DD14 90          nop
02D3DD15 EB 7A      jmp     02D3DD91
1658:          {
02D3DD17 90          nop
1659:          if (Symboltable[i][j].Equals(print_on_Screen))
02D3DD18 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DD1B 8B 88 50 01 00 00 mov     ecx,dword ptr [eax+150h]
02D3DD21 8B 95 F4 FE FF FF mov     edx,dword ptr [ebp-10Ch]
02D3DD27 39 09      cmp     dword ptr [ecx],ecx
02D3DD29 E8 D2 CD 44 6C call    6F18AB00
02D3DD2E 89 85 5C FA FF FF mov     dword ptr [ebp-5A4h],eax
02D3DD34 8B 8D 5C FA FF FF mov     ecx,dword ptr [ebp-5A4h]
02D3DD3A 8B 95 F0 FE FF FF mov     edx,dword ptr [ebp-110h]
02D3DD40 39 09      cmp     dword ptr [ecx],ecx
02D3DD42 E8 B9 CD 44 6C call    6F18AB00
02D3DD47 89 85 58 FA FF FF mov     dword ptr [ebp-5A8h],eax
02D3DD4D 8B 8D 58 FA FF FF mov     ecx,dword ptr [ebp-5A8h]
02D3DD53 8B 95 FC FE FF FF mov     edx,dword ptr [ebp-104h]
02D3DD59 39 09      cmp     dword ptr [ecx],ecx

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02D3DD5B E8 80 3B 3D 6C    call    6F1118E0
02D3DD60 89 85 54 FA FF FF  mov     dword ptr [ebp-5ACh],eax
02D3DD66 0F B6 85 54 FA FF FF movzx   eax,byte ptr [ebp-5ACh]
02D3DD6D 89 85 EC FE FF FF  mov     dword ptr [ebp-114h],eax
02D3DD73 83 BD EC FE FF FF 00 cmp     dword ptr [ebp-114h],0
02D3DD7A 74 0E                je      02D3DD8A
1660:                { index = i; }
02D3DD7C 90                nop
02D3DD7D 8B 85 F4 FE FF FF  mov     eax,dword ptr [ebp-10Ch]
02D3DD83 89 85 F8 FE FF FF  mov     dword ptr [ebp-108h],eax
02D3DD89 90                nop
1661:                }
02D3DD8A 90                nop
1657:                for (int j = 0; j < Symboltable[i].Count; j++)
02D3DD8B FF 85 F0 FE FF FF  inc     dword ptr [ebp-110h]
02D3DD91 8B 85 F0 FE FF FF  mov     eax,dword ptr [ebp-110h]
02D3DD97 89 85 68 FA FF FF  mov     dword ptr [ebp-598h],eax
02D3DD9D 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DDA0 8B 88 50 01 00 00  mov     ecx,dword ptr [eax+150h]
02D3DDA6 8B 95 F4 FE FF FF  mov     edx,dword ptr [ebp-10Ch]
02D3DDAC 39 09          cmp     dword ptr [ecx],ecx
02D3DDAE E8 4D CD 44 6C    call    6F18AB00
02D3ddb3 89 85 64 FA FF FF  mov     dword ptr [ebp-59Ch],eax
02D3ddb9 8B 8D 64 FA FF FF  mov     ecx,dword ptr [ebp-59Ch]
02D3ddbF 39 09          cmp     dword ptr [ecx],ecx
02D3DDC1 E8 FA 55 3D 6C    call    6F1133C0
02D3DDC6 89 85 60 FA FF FF  mov     dword ptr [ebp-5A0h],eax
02D3DDCC 8B 85 68 FA FF FF  mov     eax,dword ptr [ebp-598h]
02D3DDD2 3B 85 60 FA FF FF  cmp     eax,dword ptr [ebp-5A0h]
02D3DDD8 0F 9C C0          setl    al
02D3DDDB 0F B6 C0          movzx   eax,al
02D3DDDE 89 85 E8 FE FF FF  mov     dword ptr [ebp-118h],eax
02D3DDE4 83 BD E8 FE FF FF 00 cmp     dword ptr [ebp-118h],0
02D3DDEB 0F 85 26 FF FF FF  jne     02D3DD17
1662:                }
02D3DDF1 90                nop
1655:                for (int i = 0; i < Symboltable.Count; i++)
02D3DDF2 FF 85 F4 FE FF FF  inc     dword ptr [ebp-10Ch]
02D3DDF8 8B 85 F4 FE FF FF  mov     eax,dword ptr [ebp-10Ch]
02D3DDFE 89 85 70 FA FF FF  mov     dword ptr [ebp-590h],eax
02D3DE04 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3DE07 8B 88 50 01 00 00  mov     ecx,dword ptr [eax+150h]
02D3DE0D 39 09          cmp     dword ptr [ecx],ecx
02D3DE0F E8 AC 55 3D 6C    call    6F1133C0
02D3DE14 89 85 6C FA FF FF  mov     dword ptr [ebp-594h],eax
02D3DE1A 8B 85 70 FA FF FF  mov     eax,dword ptr [ebp-590h]
02D3DE20 3B 85 6C FA FF FF  cmp     eax,dword ptr [ebp-594h]
02D3DE26 0F 9C C0          setl    al
02D3DE29 0F B6 C0          movzx   eax,al
02D3DE2C 89 85 E4 FE FF FF  mov     dword ptr [ebp-11Ch],eax
02D3DE32 83 BD E4 FE FF FF 00 cmp     dword ptr [ebp-11Ch],0

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```

02D3DE39 0F 85 CC FE FF FF   jne     02D3DD0B
1663:                CodeOutput.Text = Symboltable[index][3];
02D3DE3F 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3DE42 8B 80 88 01 00 00   mov     eax,dword ptr [eax+188h]
02D3DE48 89 85 50 FA FF FF   mov     dword ptr [ebp-5B0h],eax
02D3DE4E 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3DE51 8B 88 50 01 00 00   mov     ecx,dword ptr [eax+150h]
02D3DE57 8B 95 F8 FE FF FF   mov     edx,dword ptr [ebp-108h]
02D3DE5D 39 09                cmp     dword ptr [ecx],ecx
02D3DE5F E8 9C CC 44 6C       call    6F18AB00
02D3DE64 89 85 4C FA FF FF   mov     dword ptr [ebp-5B4h],eax
02D3DE6A 8B 8D 4C FA FF FF   mov     ecx,dword ptr [ebp-5B4h]
02D3DE70 BA 03 00 00 00   mov     edx,3
02D3DE75 39 09                cmp     dword ptr [ecx],ecx
02D3DE77 E8 84 CC 44 6C       call    6F18AB00
02D3DE7C 89 85 48 FA FF FF   mov     dword ptr [ebp-5B8h],eax
02D3DE82 8B 8D 50 FA FF FF   mov     ecx,dword ptr [ebp-5B0h]
02D3DE88 8B 95 48 FA FF FF   mov     edx,dword ptr [ebp-5B8h]
02D3DE8E 8B 01             mov     eax,dword ptr [ecx]
02D3DE90 8B 40 50             mov     eax,dword ptr [eax+50h]
02D3DE93 FF 10             call    dword ptr [eax]
02D3DE95 90                nop
1664:                }
02D3DE96 90                nop
1665:                Keywords.Add(finalArray[k]); lexemes_per_line++;
02D3DE97 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3DE9A 8B 80 5C 01 00 00   mov     eax,dword ptr [eax+15Ch]
02D3DEA0 89 85 84 FA FF FF   mov     dword ptr [ebp-57Ch],eax
02D3DEA6 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3DEA9 8B 88 64 01 00 00   mov     ecx,dword ptr [eax+164h]
02D3DEAF 8B 95 1C FF FF FF   mov     edx,dword ptr [ebp-0E4h]
02D3DEB5 8B 01             mov     eax,dword ptr [ecx]
02D3DEB7 8B 40 2C             mov     eax,dword ptr [eax+2Ch]
02D3DEBA FF 50 0C             call    dword ptr [eax+0Ch]
02D3DEBD 89 85 80 FA FF FF   mov     dword ptr [ebp-580h],eax
02D3DEC3 8B 8D 84 FA FF FF   mov     ecx,dword ptr [ebp-57Ch]
02D3DEC9 8B 95 80 FA FF FF   mov     edx,dword ptr [ebp-580h]
02D3DECF 8B 01             mov     eax,dword ptr [ecx]
02D3DED1 8B 40 2C             mov     eax,dword ptr [eax+2Ch]
02D3DED4 FF 50 14             call    dword ptr [eax+14h]
02D3DED7 89 85 7C FA FF FF   mov     dword ptr [ebp-584h],eax
02D3DEDD 90                nop
02D3DEDE 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3DEE1 FF 80 90 01 00 00   inc     dword ptr [eax+190h]
1666:                }
02D3DEE7 90                nop
02D3DEE8 90                nop
02D3DEE9 E9 14 01 00 00   jmp     02D3E002
1667:                else
1668:                {
02D3DEEE 90                nop

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1669:          Variables.Add(finalArray[k]);
02D3DEEF 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DEF2 8B 80 58 01 00 00  mov     eax,dword ptr [eax+158h]
02D3DEF8 89 85 A4 FA FF FF  mov     dword ptr [ebp-55Ch],eax
02D3DEFE 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DF01 8B 88 64 01 00 00  mov     ecx,dword ptr [eax+164h]
02D3DF07 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]
02D3DF0D 8B 01      mov     eax,dword ptr [ecx]
02D3DF0F 8B 40 2C      mov     eax,dword ptr [eax+2Ch]
02D3DF12 FF 50 0C      call    dword ptr [eax+0Ch]
02D3DF15 89 85 A0 FA FF FF  mov     dword ptr [ebp-560h],eax
02D3DF1B 8B 8D A4 FA FF FF  mov     ecx,dword ptr [ebp-55Ch]
02D3DF21 8B 95 A0 FA FF FF  mov     edx,dword ptr [ebp-560h]
02D3DF27 8B 01      mov     eax,dword ptr [ecx]
02D3DF29 8B 40 2C      mov     eax,dword ptr [eax+2Ch]
02D3DF2C FF 50 14      call    dword ptr [eax+14h]
02D3DF2F 89 85 9C FA FF FF  mov     dword ptr [ebp-564h],eax
02D3DF35 90          nop
1670:          if (!LineNumber.Contains(L))
02D3DF36 B9 94 09 23 6F      mov     ecx,6F230994h
02D3DF3B E8 B4 51 E2 FF      call    02B630F4
02D3DF40 89 85 98 FA FF FF  mov     dword ptr [ebp-568h],eax
02D3DF46 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DF49 8B 80 54 01 00 00  mov     eax,dword ptr [eax+154h]
02D3DF4F 89 85 8C F9 FF FF  mov     dword ptr [ebp-674h],eax
02D3DF55 8B 85 98 FA FF FF  mov     eax,dword ptr [ebp-568h]
02D3DF5B 8B 55 B4      mov     edx,dword ptr [ebp-4Ch]
02D3DF5E 89 50 04      mov     dword ptr [eax+4],edx
02D3DF61 8B 85 98 FA FF FF  mov     eax,dword ptr [ebp-568h]
02D3DF67 89 85 88 F9 FF FF  mov     dword ptr [ebp-678h],eax
02D3DF6D 8B 8D 8C F9 FF FF  mov     ecx,dword ptr [ebp-674h]
02D3DF73 8B 95 88 F9 FF FF  mov     edx,dword ptr [ebp-678h]
02D3DF79 8B 01      mov     eax,dword ptr [ecx]
02D3DF7B 8B 40 30      mov     eax,dword ptr [eax+30h]
02D3DF7E FF 50 10      call    dword ptr [eax+10h]
02D3DF81 89 85 94 FA FF FF  mov     dword ptr [ebp-56Ch],eax
02D3DF87 83 BD 94 FA FF FF 00 cmp     dword ptr [ebp-56Ch],0
02D3DF8E 0F 94 C0      sete     al
02D3DF91 0F B6 C0      movzx    eax,al
02D3DF94 89 85 E0 FE FF FF  mov     dword ptr [ebp-120h],eax
02D3DF9A 83 BD E0 FE FF FF 00 cmp     dword ptr [ebp-120h],0
02D3DFA1 74 54          je      02D3DFF7
1671:          {
02D3DFA3 90          nop
1672:          LineNumber.Add(L);
02D3DFA4 B9 94 09 23 6F      mov     ecx,6F230994h
02D3DFA9 E8 46 51 E2 FF      call    02B630F4
02D3DFAE 89 85 98 FA FF FF  mov     dword ptr [ebp-568h],eax
02D3DFB4 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3DFB7 8B 80 54 01 00 00  mov     eax,dword ptr [eax+154h]
02D3DFBD 89 85 84 F9 FF FF  mov     dword ptr [ebp-67Ch],eax

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02D3DFC3 8B 85 98 FA FF FF  mov     eax,dword ptr [ebp-568h]
02D3DFC9 8B 55 B4             mov     edx,dword ptr [ebp-4Ch]
02D3DFCC 89 50 04             mov     dword ptr [eax+4],edx
02D3DFCF 8B 85 98 FA FF FF  mov     eax,dword ptr [ebp-568h]
02D3DFD5 89 85 80 F9 FF FF  mov     dword ptr [ebp-680h],eax
02D3DFDB 8B 8D 84 F9 FF FF  mov     ecx,dword ptr [ebp-67Ch]
02D3DFE1 8B 95 80 F9 FF FF  mov     edx,dword ptr [ebp-680h]
02D3DFE7 8B 01             mov     eax,dword ptr [ecx]
02D3DFE9 8B 40 2C             mov     eax,dword ptr [eax+2Ch]
02D3DFEC FF 50 14             call    dword ptr [eax+14h]
02D3DFEF 89 85 90 FA FF FF  mov     dword ptr [ebp-570h],eax
02D3DFF5 90             nop
1673:             }
02D3DFF6 90             nop
1674:             lexemes_per_line = lexemes_per_line + 2;
02D3DFF7 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3DFFA 83 80 90 01 00 00 02 add     dword ptr [eax+190h],2
1675:             }
02D3E001 90             nop
1676:             }
02D3E002 90             nop
1677:             if (Match_Constant.Success)
02D3E003 8B 8D 14 FF FF FF  mov     ecx,dword ptr [ebp-0ECh]
02D3E009 39 09             cmp     dword ptr [ecx],ecx
02D3E00B E8 80 28 85 6B  call    6E590890
02D3E010 89 85 FC FA FF FF  mov     dword ptr [ebp-504h],eax
02D3E016 0F B6 85 FC FA FF FF movzx    eax,byte ptr [ebp-504h]
02D3E01D 89 85 DC FE FF FF  mov     dword ptr [ebp-124h],eax
02D3E023 83 BD DC FE FF FF 00 cmp     dword ptr [ebp-124h],0
02D3E02A 74 52             je      02D3E07E
1678:             {
02D3E02C 90             nop
1679:             Constants.Add(finalArray[k]); lexemes_per_line++;
02D3E02D 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3E030 8B 80 60 01 00 00  mov     eax,dword ptr [eax+160h]
02D3E036 89 85 BC FA FF FF  mov     dword ptr [ebp-544h],eax
02D3E03C 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]
02D3E03F 8B 88 64 01 00 00  mov     ecx,dword ptr [eax+164h]
02D3E045 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]
02D3E04B 8B 01             mov     eax,dword ptr [ecx]
02D3E04D 8B 40 2C             mov     eax,dword ptr [eax+2Ch]
02D3E050 FF 50 0C             call    dword ptr [eax+0Ch]
02D3E053 89 85 B8 FA FF FF  mov     dword ptr [ebp-548h],eax
02D3E059 8B 8D BC FA FF FF  mov     ecx,dword ptr [ebp-544h]
02D3E05F 8B 95 B8 FA FF FF  mov     edx,dword ptr [ebp-548h]
02D3E065 8B 01             mov     eax,dword ptr [ecx]
02D3E067 8B 40 2C             mov     eax,dword ptr [eax+2Ch]
02D3E06A FF 50 14             call    dword ptr [eax+14h]
02D3E06D 89 85 B4 FA FF FF  mov     dword ptr [ebp-54Ch],eax
02D3E073 90             nop
02D3E074 8B 45 C4             mov     eax,dword ptr [ebp-3Ch]

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02D3E077 FF 80 90 01 00 00 inc    dword ptr [eax+190h]
1680:      }
02D3E07D 90                nop
1681:      if (Match_Operator.Success)
02D3E07E 8B 8D 10 FF FF FF mov    ecx,dword ptr [ebp-0F0h]
02D3E084 39 09                cmp    dword ptr [ecx],ecx
02D3E086 E8 05 28 85 6B    call   6E590890
02D3E08B 89 85 F8 FA FF FF mov    dword ptr [ebp-508h],eax
02D3E091 0F B6 85 F8 FA FF FF movzx   eax,byte ptr [ebp-508h]
02D3E098 89 85 D8 FE FF FF mov    dword ptr [ebp-128h],eax
02D3E09E 83 BD D8 FE FF FF 00 cmp    dword ptr [ebp-128h],0
02D3E0A5 0F 84 D0 01 00 00 je     02D3E27B
1682:      {
02D3E0AB 90                nop
1683:      if (finalArray[k].Equals(";") || finalArray[k].Equals("{}") || finalArray[k].Equals("{")
|| finalArray[k].Equals("}"))
02D3E0AC 8B 45 C4          mov    eax,dword ptr [ebp-3Ch]
02D3E0AF 8B 88 64 01 00 00 mov    ecx,dword ptr [eax+164h]
02D3E0B5 8B 95 1C FF FF FF mov    edx,dword ptr [ebp-0E4h]
02D3E0BB 8B 01          mov    eax,dword ptr [ecx]
02D3E0BD 8B 40 2C          mov    eax,dword ptr [eax+2Ch]
02D3E0C0 FF 50 0C          call   dword ptr [eax+0Ch]
02D3E0C3 89 85 F4 FA FF FF mov    dword ptr [ebp-50Ch],eax
02D3E0C9 8B 15 5C 23 E6 03 mov    edx,dword ptr ds:[3E6235Ch]
02D3E0CF 8B 8D F4 FA FF FF mov    ecx,dword ptr [ebp-50Ch]
02D3E0D5 8B 01          mov    eax,dword ptr [ecx]
02D3E0D7 8B 40 28          mov    eax,dword ptr [eax+28h]
02D3E0DA FF 50 04          call   dword ptr [eax+4]
02D3E0DD 89 85 F0 FA FF FF mov    dword ptr [ebp-510h],eax
02D3E0E3 83 BD F0 FA FF FF 00 cmp    dword ptr [ebp-510h],0
02D3E0EA 0F 85 CA 00 00 00 jne     02D3E1BA
02D3E0F0 8B 45 C4          mov    eax,dword ptr [ebp-3Ch]
02D3E0F3 8B 88 64 01 00 00 mov    ecx,dword ptr [eax+164h]
02D3E0F9 8B 95 1C FF FF FF mov    edx,dword ptr [ebp-0E4h]
02D3E0FF 8B 01          mov    eax,dword ptr [ecx]
02D3E101 8B 40 2C          mov    eax,dword ptr [eax+2Ch]
02D3E104 FF 50 0C          call   dword ptr [eax+0Ch]
02D3E107 89 85 D4 FA FF FF mov    dword ptr [ebp-52Ch],eax
02D3E10D 8B 15 B8 23 E6 03 mov    edx,dword ptr ds:[3E623B8h]
02D3E113 8B 8D D4 FA FF FF mov    ecx,dword ptr [ebp-52Ch]
02D3E119 8B 01          mov    eax,dword ptr [ecx]
02D3E11B 8B 40 28          mov    eax,dword ptr [eax+28h]
02D3E11E FF 50 04          call   dword ptr [eax+4]
02D3E121 89 85 D0 FA FF FF mov    dword ptr [ebp-530h],eax
02D3E127 83 BD D0 FA FF FF 00 cmp    dword ptr [ebp-530h],0
02D3E12E 0F 85 86 00 00 00 jne     02D3E1BA
02D3E134 8B 45 C4          mov    eax,dword ptr [ebp-3Ch]
02D3E137 8B 88 64 01 00 00 mov    ecx,dword ptr [eax+164h]
02D3E13D 8B 95 1C FF FF FF mov    edx,dword ptr [ebp-0E4h]
02D3E143 8B 01          mov    eax,dword ptr [ecx]
02D3E145 8B 40 2C          mov    eax,dword ptr [eax+2Ch]

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02D3E148 FF 50 0C      call    dword ptr [eax+0Ch]
02D3E14B 89 85 CC FA FF FF  mov     dword ptr [ebp-534h],eax
02D3E151 8B 15 80 23 E6 03  mov     edx,dword ptr ds:[3E62380h]
02D3E157 8B 8D CC FA FF FF  mov     ecx,dword ptr [ebp-534h]
02D3E15D 8B 01          mov     eax,dword ptr [ecx]
02D3E15F 8B 40 28          mov     eax,dword ptr [eax+28h]
02D3E162 FF 50 04      call    dword ptr [eax+4]
02D3E165 89 85 C8 FA FF FF  mov     dword ptr [ebp-538h],eax
02D3E16B 83 BD C8 FA FF FF 00 cmp     dword ptr [ebp-538h],0
02D3E172 75 46          jne     02D3E1BA
02D3E174 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3E177 8B 88 64 01 00 00  mov     ecx,dword ptr [eax+164h]
02D3E17D 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]
02D3E183 8B 01          mov     eax,dword ptr [ecx]
02D3E185 8B 40 2C          mov     eax,dword ptr [eax+2Ch]
02D3E188 FF 50 0C      call    dword ptr [eax+0Ch]
02D3E18B 89 85 C4 FA FF FF  mov     dword ptr [ebp-53Ch],eax
02D3E191 8B 15 7C 23 E6 03  mov     edx,dword ptr ds:[3E6237Ch]
02D3E197 8B 8D C4 FA FF FF  mov     ecx,dword ptr [ebp-53Ch]
02D3E19D 8B 01          mov     eax,dword ptr [ecx]
02D3E19F 8B 40 28          mov     eax,dword ptr [eax+28h]
02D3E1A2 FF 50 04      call    dword ptr [eax+4]
02D3E1A5 89 85 C0 FA FF FF  mov     dword ptr [ebp-540h],eax
02D3E1AB 90          nop
02D3E1AC 8B 85 C0 FA FF FF  mov     eax,dword ptr [ebp-540h]
02D3E1B2 89 85 EC FA FF FF  mov     dword ptr [ebp-514h],eax
02D3E1B8 EB 0A          jmp     02D3E1C4
02D3E1BA C7 85 EC FA FF FF 01 00 00 00 mov     dword ptr [ebp-514h],1
02D3E1C4 0F B6 85 EC FA FF FF movzx    eax,byte ptr [ebp-514h]
02D3E1CB 89 85 D4 FE FF FF  mov     dword ptr [ebp-12Ch],eax
02D3E1D1 83 BD D4 FE FF FF 00 cmp     dword ptr [ebp-12Ch],0
02D3E1D8 74 10          je     02D3E1EA
1684:      {
02D3E1DA 90          nop
1685:      L++; lexemes_per_line = 0;
02D3E1DB FF 45 B4          inc     dword ptr [ebp-4Ch]
02D3E1DE 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3E1E1 33 D2          xor     edx,edx
02D3E1E3 89 90 90 01 00 00  mov     dword ptr [eax+190h],edx
1686:      }
02D3E1E9 90          nop
1687:      if (operators_Reg.Match(finalArray[k] + "").Success)
02D3E1EA 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3E1ED 8B 80 74 01 00 00  mov     eax,dword ptr [eax+174h]
02D3E1F3 89 85 E8 FA FF FF  mov     dword ptr [ebp-518h],eax
02D3E1F9 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3E1FC 8B 88 64 01 00 00  mov     ecx,dword ptr [eax+164h]
02D3E202 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]
02D3E208 8B 01          mov     eax,dword ptr [ecx]
02D3E20A 8B 40 2C          mov     eax,dword ptr [eax+2Ch]
02D3E20D FF 50 0C      call    dword ptr [eax+0Ch]

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02D3E210 89 85 E4 FA FF FF  mov     dword ptr [ebp-51Ch],eax
02D3E216 8B 8D E4 FA FF FF  mov     ecx,dword ptr [ebp-51Ch]
02D3E21C E8 7F A1 AE 6C    call    6F8283A0
02D3E221 89 85 E0 FA FF FF  mov     dword ptr [ebp-520h],eax
02D3E227 8B 8D E8 FA FF FF  mov     ecx,dword ptr [ebp-518h]
02D3E22D 8B 95 E0 FA FF FF  mov     edx,dword ptr [ebp-520h]
02D3E233 39 09             cmp     dword ptr [ecx],ecx
02D3E235 E8 E6 86 84 6B    call    6E586920
02D3E23A 89 85 DC FA FF FF  mov     dword ptr [ebp-524h],eax
02D3E240 8B 8D DC FA FF FF  mov     ecx,dword ptr [ebp-524h]
02D3E246 39 09             cmp     dword ptr [ecx],ecx
02D3E248 E8 43 26 85 6B    call    6E590890
02D3E24D 89 85 D8 FA FF FF  mov     dword ptr [ebp-528h],eax
02D3E253 0F B6 85 D8 FA FF FF  movzx   eax,byte ptr [ebp-528h]
02D3E25A 89 85 D0 FE FF FF  mov     dword ptr [ebp-130h],eax
02D3E260 83 BD D0 FE FF FF 00  cmp     dword ptr [ebp-130h],0
02D3E267 74 11             je      02D3E27A
1688:      {
02D3E269 90             nop
1689:      Semantic_Analysis(k);
02D3E26A 8B 4D C4       mov     ecx,dword ptr [ebp-3Ch]
02D3E26D 8B 95 1C FF FF FF  mov     edx,dword ptr [ebp-0E4h]
02D3E273 E8 C4 2A FF FF    call    02D30D3C
02D3E278 90             nop
1690:      }
02D3E279 90             nop
1691:      }
02D3E27A 90             nop
1692:      Check_And_Make_Entries();
02D3E27B 8B 4D C4       mov     ecx,dword ptr [ebp-3Ch]
02D3E27E E8 C9 2A FF FF    call    02D30D4C
02D3E283 90             nop
1693:      }
02D3E284 90             nop
1636:      for (int k = 0; k < finalArray.Count; k++)
02D3E285 FF 85 1C FF FF FF  inc     dword ptr [ebp-0E4h]
02D3E28B 8B 85 1C FF FF FF  mov     eax,dword ptr [ebp-0E4h]
02D3E291 89 85 38 FB FF FF  mov     dword ptr [ebp-4C8h],eax
02D3E297 8B 45 C4       mov     eax,dword ptr [ebp-3Ch]
02D3E29A 8B 88 64 01 00 00  mov     ecx,dword ptr [eax+164h]
02D3E2A0 8B 01       mov     eax,dword ptr [ecx]
02D3E2A2 8B 40 28       mov     eax,dword ptr [eax+28h]
02D3E2A5 FF 50 18       call    dword ptr [eax+18h]
02D3E2A8 89 85 34 FB FF FF  mov     dword ptr [ebp-4CCh],eax
02D3E2AE 8B 85 38 FB FF FF  mov     eax,dword ptr [ebp-4C8h]
02D3E2B4 3B 85 34 FB FF FF  cmp     eax,dword ptr [ebp-4CCh]
02D3E2BA 0F 9C C0       setl    al
02D3E2BD 0F B6 C0       movzx   eax,al
02D3E2C0 89 85 CC FE FF FF  mov     dword ptr [ebp-134h],eax
02D3E2C6 83 BD CC FE FF FF 00  cmp     dword ptr [ebp-134h],0
02D3E2CD 0F 85 B9 F7 FF FF  jne     02D3DA8C

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```

1694:      #endregion
1695:      //////////////////////////////////Symbol Table Generated //////////////////////////////////
1696:      #region Display Symbol Table
1697:      for (int j = 0; j < Symboltable.Count; j++)
02D3E2D3 33 D2      xor      edx,edx
02D3E2D5 89 95 C8 FE FF FF  mov     dword ptr [ebp-138h],edx
02D3E2DB 90      nop
02D3E2DC E9 01 01 00 00  jmp     02D3E3E2
1698:      {
02D3E2E1 90      nop
1699:      for (int z = 0; z < Symboltable[j].Count; z++)
02D3E2E2 33 D2      xor      edx,edx
02D3E2E4 89 95 C4 FE FF FF  mov     dword ptr [ebp-13Ch],edx
02D3E2EA 90      nop
02D3E2EB EB 77      jmp     02D3E364
1700:      { ST.AppendText(Symboltable[j][z] + "\\t"); }
02D3E2ED 90      nop
02D3E2EE 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3E2F1 8B 80 80 01 00 00  mov     eax,dword ptr [eax+180h]
02D3E2F7 89 85 30 FA FF FF  mov     dword ptr [ebp-5D0h],eax
02D3E2FD 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3E300 8B 88 50 01 00 00  mov     ecx,dword ptr [eax+150h]
02D3E306 8B 95 C8 FE FF FF  mov     edx,dword ptr [ebp-138h]
02D3E30C 39 09      cmp     dword ptr [ecx],ecx
02D3E30E E8 ED C7 44 6C  call    6F18AB00
02D3E313 89 85 2C FA FF FF  mov     dword ptr [ebp-5D4h],eax
02D3E319 8B 8D 2C FA FF FF  mov     ecx,dword ptr [ebp-5D4h]
02D3E31F 8B 95 C4 FE FF FF  mov     edx,dword ptr [ebp-13Ch]
02D3E325 39 09      cmp     dword ptr [ecx],ecx
02D3E327 E8 D4 C7 44 6C  call    6F18AB00
02D3E32C 89 85 28 FA FF FF  mov     dword ptr [ebp-5D8h],eax
02D3E332 8B 15 A4 95 E6 03  mov     edx,dword ptr ds:[3E695A4h]
02D3E338 8B 8D 28 FA FF FF  mov     ecx,dword ptr [ebp-5D8h]
02D3E33E E8 ED 57 3D 6C  call    6F113B30
02D3E343 89 85 24 FA FF FF  mov     dword ptr [ebp-5DCh],eax
02D3E349 8B 8D 30 FA FF FF  mov     ecx,dword ptr [ebp-5D0h]
02D3E34F 8B 95 24 FA FF FF  mov     edx,dword ptr [ebp-5DCh]
02D3E355 39 09      cmp     dword ptr [ecx],ecx
02D3E357 E8 58 17 3E 68  call    6B11FAB4
02D3E35C 90      nop
02D3E35D 90      nop
1699:      for (int z = 0; z < Symboltable[j].Count; z++)
02D3E35E FF 85 C4 FE FF FF  inc     dword ptr [ebp-13Ch]
02D3E364 8B 85 C4 FE FF FF  mov     eax,dword ptr [ebp-13Ch]
02D3E36A 89 85 3C FA FF FF  mov     dword ptr [ebp-5C4h],eax
02D3E370 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3E373 8B 88 50 01 00 00  mov     ecx,dword ptr [eax+150h]
02D3E379 8B 95 C8 FE FF FF  mov     edx,dword ptr [ebp-138h]
02D3E37F 39 09      cmp     dword ptr [ecx],ecx
02D3E381 E8 7A C7 44 6C  call    6F18AB00
02D3E386 89 85 38 FA FF FF  mov     dword ptr [ebp-5C8h],eax

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02D3E38C 8B 8D 38 FA FF FF  mov     ecx,dword ptr [ebp-5C8h]
02D3E392 39 09                cmp     dword ptr [ecx],ecx
02D3E394 E8 27 50 3D 6C    call    6F1133C0
02D3E399 89 85 34 FA FF FF  mov     dword ptr [ebp-5CCh],eax
02D3E39F 8B 85 3C FA FF FF  mov     eax,dword ptr [ebp-5C4h]
02D3E3A5 3B 85 34 FA FF FF  cmp     eax,dword ptr [ebp-5CCh]
02D3E3AB 0F 9C C0          setl     al
02D3E3AE 0F B6 C0          movzx   eax,al
02D3E3B1 89 85 C0 FE FF FF  mov     dword ptr [ebp-140h],eax
02D3E3B7 83 BD C0 FE FF FF 00 cmp     dword ptr [ebp-140h],0
02D3E3BE 0F 85 29 FF FF FF  jne     02D3E2ED
1701:      ST.AppendText("\n");
02D3E3C4 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3E3C7 8B 88 80 01 00 00  mov     ecx,dword ptr [eax+180h]
02D3E3CD 8B 15 A8 95 E6 03  mov     edx,dword ptr ds:[3E695A8h]
02D3E3D3 39 09                cmp     dword ptr [ecx],ecx
02D3E3D5 E8 DA 16 3E 68    call    6B11FAB4
02D3E3DA 90                nop
1702:      }
02D3E3DB 90                nop
1697:      for (int j = 0; j < Symboltable.Count; j++)
02D3E3DC FF 85 C8 FE FF FF  inc     dword ptr [ebp-138h]
02D3E3E2 8B 85 C8 FE FF FF  mov     eax,dword ptr [ebp-138h]
02D3E3E8 89 85 44 FA FF FF  mov     dword ptr [ebp-5BCh],eax
02D3E3EE 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3E3F1 8B 88 50 01 00 00  mov     ecx,dword ptr [eax+150h]
02D3E3F7 39 09                cmp     dword ptr [ecx],ecx
02D3E3F9 E8 C2 4F 3D 6C    call    6F1133C0
02D3E3FE 89 85 40 FA FF FF  mov     dword ptr [ebp-5C0h],eax
02D3E404 8B 85 44 FA FF FF  mov     eax,dword ptr [ebp-5BCh]
02D3E40A 3B 85 40 FA FF FF  cmp     eax,dword ptr [ebp-5C0h]
02D3E410 0F 9C C0          setl     al
02D3E413 0F B6 C0          movzx   eax,al
02D3E416 89 85 BC FE FF FF  mov     dword ptr [ebp-144h],eax
02D3E41C 83 BD BC FE FF FF 00 cmp     dword ptr [ebp-144h],0
02D3E423 0F 85 B8 FE FF FF  jne     02D3E2E1
1703:      #endregion
1704:      }
02D3E429 90                nop
02D3E42A 8D 65 F4          lea     esp,[ebp-0Ch]
02D3E42D 5B                pop     ebx
02D3E42E 5E                pop     esi
02D3E42F 5F                pop     edi
02D3E430 5D                pop     ebp
02D3E431 C2 04 00          ret     4
--- No source file -----
02D3E434 02 00          add     al,byte ptr [eax]
02D3E436 00 00          add     byte ptr [eax],al
02D3E438 00 B0 00 EB 0C B0  add     byte ptr [eax-4FF31500h],dh
02D3E43E 04 EB          add     al,0EBh
02D3E440 08 B0 08 EB 04 B0  or      byte ptr [eax-4FFB14F8h],dh

```

|                               |     |                                   |
|-------------------------------|-----|-----------------------------------|
| 02D3E446 0C EB                | or  | al,0EBh                           |
| 02D3E448 00 0F                | add | byte ptr [edi],cl                 |
| 02D3E44A B6 C0                | mov | dh,0C0h                           |
| 02D3E44C C1 E0 02             | shl | eax,2                             |
| 02D3E44F 05 C4 52 B6 02       | add | eax,2B652C4h                      |
| 02D3E454 E9 CF 0B 4F 6D       | jmp | 7022F028                          |
| 02D3E459 00 00                | add | byte ptr [eax],al                 |
| 02D3E45B 00 00                | add | byte ptr [eax],al                 |
| 02D3E45D 00 00                | add | byte ptr [eax],al                 |
| 02D3E45F 00 DC                | add | ah,bl                             |
| 02D3E461 03 00                | add | eax,dword ptr [eax]               |
| 02D3E463 00 00                | add | byte ptr [eax],al                 |
| 02D3E465 00 00                | add | byte ptr [eax],al                 |
| 02D3E467 00 00                | add | byte ptr [eax],al                 |
| 02D3E469 00 00                | add | byte ptr [eax],al                 |
| 02D3E46B 00 00                | add | byte ptr [eax],al                 |
| 02D3E46D 00 00                | add | byte ptr [eax],al                 |
| 02D3E46F 00 00                | add | byte ptr [eax],al                 |
| 02D3E471 00 00                | add | byte ptr [eax],al                 |
| 02D3E473 00 00                | add | byte ptr [eax],al                 |
| 02D3E475 00 00                | add | byte ptr [eax],al                 |
| 02D3E477 00 00                | add | byte ptr [eax],al                 |
| 02D3E479 00 00                | add | byte ptr [eax],al                 |
| 02D3E47B 00 00                | add | byte ptr [eax],al                 |
| 02D3E47D 00 00                | add | byte ptr [eax],al                 |
| 02D3E47F 00 00                | add | byte ptr [eax],al                 |
| 02D3E481 00 00                | add | byte ptr [eax],al                 |
| 02D3E483 00 00                | add | byte ptr [eax],al                 |
| 02D3E485 00 00                | add | byte ptr [eax],al                 |
| 02D3E487 00 00                | add | byte ptr [eax],al                 |
| 02D3E489 00 00                | add | byte ptr [eax],al                 |
| 02D3E48B 00 00                | add | byte ptr [eax],al                 |
| 02D3E48D 00 00                | add | byte ptr [eax],al                 |
| 02D3E48F 00 00                | add | byte ptr [eax],al                 |
| 02D3E491 00 00                | add | byte ptr [eax],al                 |
| 02D3E493 00 00                | add | byte ptr [eax],al                 |
| 02D3E495 00 00                | add | byte ptr [eax],al                 |
| 02D3E497 00 00                | add | byte ptr [eax],al                 |
| 02D3E499 00 00                | add | byte ptr [eax],al                 |
| 02D3E49B 00 00                | add | byte ptr [eax],al                 |
| 02D3E49D 00 00                | add | byte ptr [eax],al                 |
| 02D3E49F 00 00                | add | byte ptr [eax],al                 |
| 02D3E4A1 00 00                | add | byte ptr [eax],al                 |
| 02D3E4A3 00 00                | add | byte ptr [eax],al                 |
| 02D3E4A5 00 00                | add | byte ptr [eax],al                 |
| 02D3E4A7 00 00                | add | byte ptr [eax],al                 |
| 02D3E4A9 00 00                | add | byte ptr [eax],al                 |
| 02D3E4AB 00 00                | add | byte ptr [eax],al                 |
| 02D3E4AD 00 00                | add | byte ptr [eax],al                 |
| 02D3E837 00 9C 48 ED 07 30 48 | add | byte ptr [eax+ecx*2+483007EDh],bl |
| 02D3E83E ED                   | in  | eax,dx                            |

```

02D3E83F 07      pop     es
02D3E840 4C      dec     esp
02D3E841 48      dec     eax
02D3E842 ED      in      eax,dx
02D3E843 07      pop     es
02D3E844 4C      dec     esp
02D3E845 16      push    ss
02D3E846 A6      cmps    byte ptr [esi],byte ptr es:[edi]
02D3E847 05 55 8B EC 57  add     eax,57EC8B55h
1870:    {
02D3E84C 56      push    esi
02D3E84D 53      push    ebx
02D3E84E 83 EC 5C      sub     esp,5Ch
02D3E851 8B F1      mov     esi,ecx
02D3E853 8D 7D 98      lea     edi,[ebp-68h]
02D3E856 B9 17 00 00 00  mov     ecx,17h
02D3E85B 33 C0      xor     eax,eax
02D3E85D F3 AB      rep stos dword ptr es:[edi]
02D3E85F 8B CE      mov     ecx,esi
02D3E861 89 4D C4      mov     dword ptr [ebp-3Ch],ecx
02D3E864 83 3D BC 02 A6 05 00 cmp     dword ptr ds:[5A602BCh],0
02D3E86B 74 05      je      02D3E872
02D3E86D E8 BE 5A 83 6D  call     70574330
02D3E872 33 D2      xor     edx,edx
02D3E874 89 55 B0      mov     dword ptr [ebp-50h],edx
02D3E877 90      nop
1871:    foreach (String i in Stack)
02D3E878 90      nop
02D3E879 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]
02D3E87C 8B 88 44 01 00 00  mov     ecx,dword ptr [eax+144h]
02D3E882 8D 55 A0      lea     edx,[ebp-60h]
02D3E885 39 09      cmp     dword ptr [ecx],ecx
02D3E887 E8 24 0A 7F 6B  call     6E52F2B0
02D3E88C 8D 7D B4      lea     edi,[ebp-4Ch]
02D3E88F 8D 75 A0      lea     esi,[ebp-60h]
02D3E892 A5      movs    dword ptr es:[edi],dword ptr [esi]
02D3E893 A5      movs    dword ptr es:[edi],dword ptr [esi]
02D3E894 A5      movs    dword ptr es:[edi],dword ptr [esi]
02D3E895 A5      movs    dword ptr es:[edi],dword ptr [esi]
02D3E896 90      nop
02D3E897 EB 2C      jmp     02D3E8C5
02D3E899 8D 4D B4      lea     ecx,[ebp-4Ch]
02D3E89C BA 18 DA B5 6E  mov     edx,6EB5DA18h
02D3E8A1 E8 86 09 7F 6B  call     6E52F22C
02D3E8A6 89 45 98      mov     dword ptr [ebp-68h],eax
02D3E8A9 8B 45 98      mov     eax,dword ptr [ebp-68h]
02D3E8AC 89 45 B0      mov     dword ptr [ebp-50h],eax
1872:    {
02D3E8AF 90      nop
1873:    Output.AppendText(i);
02D3E8B0 8B 45 C4      mov     eax,dword ptr [ebp-3Ch]

```

```

02D3E8B3 8B 88 8C 01 00 00  mov     ecx,dword ptr [eax+18Ch]
02D3E8B9 8B 55 B0          mov     edx,dword ptr [ebp-50h]
02D3E8BC 39 09          cmp     dword ptr [ecx],ecx
02D3E8BE E8 F1 11 3E 68    call    6B11FAB4
02D3E8C3 90          nop
1874:      }
02D3E8C4 90          nop
1871:      foreach (String i in Stack)
02D3E8C5 8D 4D B4          lea     ecx,[ebp-4Ch]
02D3E8C8 BA 18 DA B5 6E    mov     edx,6EB5DA18h
02D3E8CD E8 3E 1E 7F 6B    call    6E530710
02D3E8D2 89 45 9C          mov     dword ptr [ebp-64h],eax
02D3E8D5 83 7D 9C 00      cmp     dword ptr [ebp-64h],0
02D3E8D9 75 BE          jne     02D3E899
02D3E8DB 90          nop
02D3E8DC C7 45 E0 00 00 00 00 mov     dword ptr [ebp-20h],0
02D3E8E3 C7 45 E4 FC 00 00 00 mov     dword ptr [ebp-1Ch],0FCh
02D3E8EA 68 22 E9 D3 02    push    2D3E922h
02D3E8EF EB 00          jmp     02D3E8F1
02D3E8F1 8D 4D B4          lea     ecx,[ebp-4Ch]
02D3E8F4 BA 18 DA B5 6E    mov     edx,6EB5DA18h
02D3E8F9 E8 EA 0B 7F 6B    call    6E52F4E8
02D3E8FE 90          nop
02D3E8FF 58          pop     eax
02D3E900 FF E0          jmp     eax
1875:      Output.AppendText("\n");
02D3E902 8B 45 C4          mov     eax,dword ptr [ebp-3Ch]
02D3E905 8B 88 8C 01 00 00  mov     ecx,dword ptr [eax+18Ch]
02D3E90B 8B 15 A8 95 E6 03  mov     edx,dword ptr ds:[3E695A8h]
02D3E911 39 09          cmp     dword ptr [ecx],ecx
02D3E913 E8 9C 11 3E 68    call    6B11FAB4
02D3E918 90          nop
1876:      }
02D3E919 90          nop
02D3E91A 8D 65 F4          lea     esp,[ebp-0Ch]
02D3E91D 5B          pop     ebx
02D3E91E 5E          pop     esi
02D3E91F 5F          pop     edi
02D3E920 5D          pop     ebp
02D3E921 C3          ret
02D3E922 C7 45 E4 00 00 00 00 mov     dword ptr [ebp-1Ch],0
02D3E929 EB D7          jmp     02D3E902

```