

Assignment No-01

CSE-0302 Summer 2021

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Abstract—Main theme of your assignment or academic projects.

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Index Terms—The word mostly used in your report.

I. INTRODUCTION

Compiler is a software which converts a program written in high level language (Source Language) to low level language. We know a computer is a logical assembly of Software and Hardware. The hardware knows a language, that is hard for us to grasp, consequently we tend to write programs in high-level language, that is much less complicated for us to comprehend and maintain in thoughts. Now these programs go through a series of transformation so that they can readily be used by machines. This is where language procedure systems come handy.

This is the very first phase in the compiler designing. A Lexer takes the modified source code which is written in the form of sentences. In other words, it helps you to convert a sequence of characters into a sequence of tokens. The lexical analyzer breaks this syntax into a series of tokens. It removes any extra space or comment written in the source code.

Programs that perform lexical analysis are called lexical analyzers or lexers. A lexer contains tokenizer or scanner. If the lexical analyzer detects that the token is invalid, it generates an error. It reads character streams from the source code, checks for legal tokens, and pass the data to the syntax analyzer when it demands. Example

How Pleasant Is The Weather? See this example; Here, we can easily recognize that there are five words How Pleasant, The, Weather, Is. This is very natural for us as we can recognize the separators, blanks, and the punctuation symbol.

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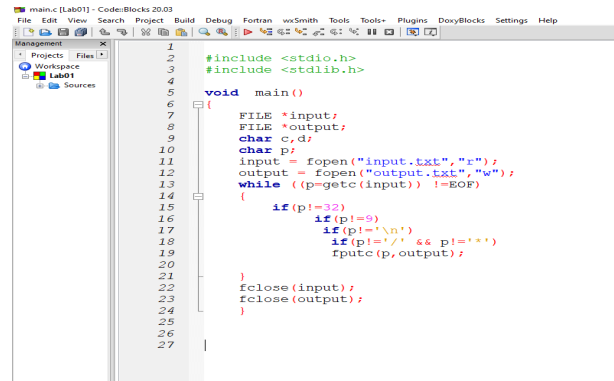


Fig. 1. Assignment-01

II. LITERATURE REVIEW

Before this project i read a book which wrote by **Tamim shahriar subin** .it helps me a lot ,because before i attend to compiler lab class i don't know how to use FILE,pointer ,Header etc.But my honourable teacher **Khan Md.Hasib** suggest me to basic of c language .and he also helps us to understand this topic.

III. PROPOSED METHODOLOGY

the compilation process Source program			
1.Lexical	analysis	2.Syntax	analysis
3.Semantic			analysis
4.Intermediate		code	gen
5.Intermediate			representation
6.IR			optimization
7.Object		code	gen
8.Object		code	optimization
9.Target			program
Code	for	Lab-01	

IV. CONCLUSION AND FUTURE WORK

This code is depend on ASCII value and aslo File .Firstly is i should learn FILE and pointer .then i learn ASCII value .then i start this project to do. i successfully run it and get the actual output .And hopefully i wil have done the allthis kind of problem solved. In future, what you bring in your project

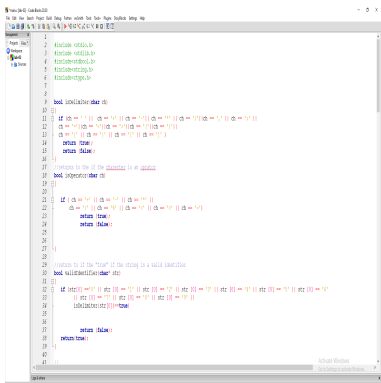


Fig. 2. Assignment-02(1)

and the idea of your work. This code is depend on compiler design .So,Firstly,i will know keyword,tokens,lexeme,and so on .then i start this project to do. i successfully run it and get the actual output .And hopefully i wil have done the allthis kind of problem solved.

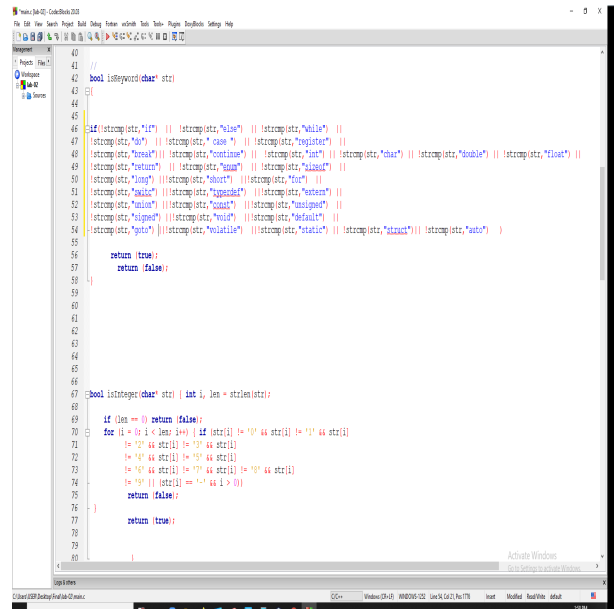


Fig. 3. Assignment-02(2)

ACKNOWLEDGMENT

I would like to thank my honourable**Khan Md. Hasib Sir** for his time, generosity and critical insights into this project.

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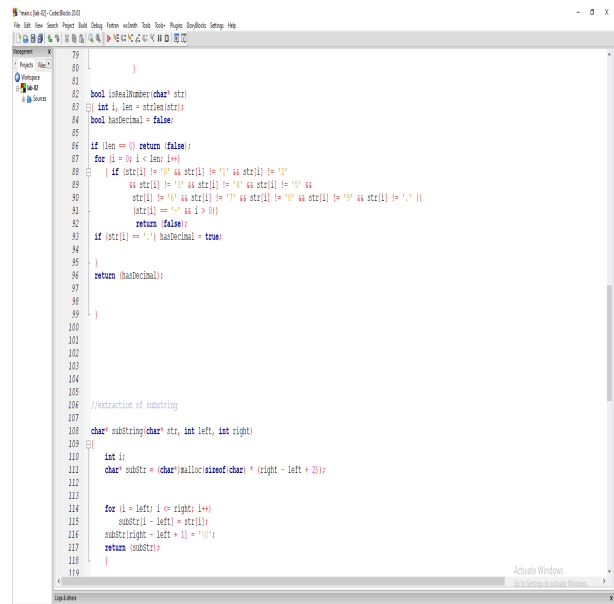


Fig. 4. Assignment-02(3)

```

119 |
120 |
121 | void parse(char* str)
122 | {
123 |     left = 0, right = 0;
124 |     int len = strlen(str);
125 |     while (right < len && left <= right) {
126 |         if (isDelimiter(str[right]) == false)
127 |             right++;
128 |         if (isDelimiter(str[right]) == true && left == right) {
129 |             if (isOperator(str[right]) == true)
130 |                 printf("%c" " IS AN OPERATOR", str[right]);
131 |             right++;
132 |             left = right;
133 |         }
134 |         else if (isDelimiter(str[right]) == true && left != right)
135 |             (right == len && left != right);
136 |
137 |
138 |
139 |     }
140 |     char* subStr = substr(str, left, right - 1);
141 |     if (isKeyword(subStr) == true)
142 |         printf("%s" " IS A KEYWORD", subStr);
143 |     else if (isInteger(subStr) == true)
144 |         printf("%s" " IS AN INTEGER", subStr);
145 |     else if (isRealNumber(subStr) == true)
146 |         printf("%s" " IS A REAL NUMBER", subStr);
147 |     else if (isValidIdentifier(subStr) == true && isDelimiter(str[right - 1]) == false)
148 |         printf("%s" " IS A VALID IDENTIFIER", subStr);
149 |
150 |
151 |     else if (isValidIdentifier(subStr) == false && isDelimiter(str[right - 1]) == false)
152 |         printf("%s" " IS NOT A VALID IDENTIFIER", subStr);
153 |     left = right;
154 |
155 | }
156 |
157 | return;
158 |
159 |

```

Fig. 5. Assignment-02(4)



```
C:\Users\USERN\Desktop\practice\bin\Debug\practice.exe
Type the line of code below:
char c ; int x1 , x_2 ; float y1 , y2 ; x1 = 5 ; x_2 = 10 ; y1 = 2.5 + x1 * 45 ; y2 = 100.05 * x_2 / 3 ; if ( y1 <= y2 )
c = ' y ' ; else c = ' n ' ;
```

Fig. 7. Assignment-02(input)

```
int main()

{

    char str[100];

    int i=0;

    printf("Type the line of code below:\n");

    scanf("%[^\n]", &str);

    parse(str);

    printf("\nAuthor:MD_Arif Hossain \n\n");

}
```

Fig. 6. Assignment-02(5)

```

1  class C100Poly2D {public:
2      void SetSizeOfCoeffMatrix()
3      {
4          int n = 10;
5          int m = 10;
6          int k = 10;
7          int l = 10;
8          int p = 10;
9          int q = 10;
10         int r = 10;
11         int s = 10;
12         int t = 10;
13         int u = 10;
14         int v = 10;
15         int w = 10;
16         int x = 10;
17         int y = 10;
18         int z = 10;
19         int aa = 10;
20         int bb = 10;
21         int cc = 10;
22         int dd = 10;
23         int ee = 10;
24         int ff = 10;
25         int gg = 10;
26         int hh = 10;
27         int ii = 10;
28         int jj = 10;
29         int kk = 10;
30         int ll = 10;
31         int mm = 10;
32         int nn = 10;
33         int oo = 10;
34         int pp = 10;
35         int qq = 10;
36         int rr = 10;
37         int ss = 10;
38         int tt = 10;
39         int uu = 10;
40         int vv = 10;
41         int ww = 10;
42         int xx = 10;
43         int yy = 10;
44         int zz = 10;
45         int aaa = 10;
46         int bbb = 10;
47         int ccc = 10;
48         int ddd = 10;
49         int eee = 10;
50         int fff = 10;
51         int ggg = 10;
52         int hhh = 10;
53         int iii = 10;
54         int jjj = 10;
55         int kkk = 10;
56         int lll = 10;
57         int mmm = 10;
58         int nnn = 10;
59         int ooo = 10;
60         int ppp = 10;
61         int qqq = 10;
62         int rrr = 10;
63         int sss = 10;
64         int ttt = 10;
65         int uuu = 10;
66         int vvv = 10;
67         int www = 10;
68         int xxx = 10;
69         int yyy = 10;
70         int zzz = 10;
71         int aaa = 10;
72         int bbb = 10;
73         int ccc = 10;
74         int ddd = 10;
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329        int yyy = 10;
330        int zzz = 10;
3
```

Fig. 8. Assignment-02(output)