SCSA2602-Compiler Design Lab

Started on	Tuesday, 4 January 2022, 2:33 PM
State	Finished
Completed on	Tuesday, 4 January 2022, 2:51 PM
Time taken	17 mins 52 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question 1

Correct

Mark 1.00 out of 1.00

Flag question

Write a c program to find the type of texts in the program

Example:

1,2,3 = Integer

[a-z, A-Z] = Identifier

+,-,* = Operator

TEST CASE1:

Standard Input:

2

Quiz navigation

1

Finish review

Question 1

Correct

Mark 1.00 out of 1.00

Flag question

Write a c program to find the type of texts in the program

Example:

1,2,3 = Integer

[a-z, A-Z] = Identifier

+,-,* = Operator

TEST CASE1:

Standard Input:

2

A

*

Expected Output:

Integer

Identifier

Operator

TEST CASE2:

Standard Input:

6

x

+

Expected Output:

Integer

Identifier

Standard Input:

2

A

*

Expected Output:

Integer

Identifier

Operator

TEST CASE2:

Standard Input:

6

x

+

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
/*#include <stdbool.h>
#include <stdio.h>
#include <string.h>
#include <stdlib.h>

// Returns 'true' if the character is a DELIMITER.
```

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
/*#include <stdbool.h>
#include <stdio.h>
#include <string.h>
#include <stdlib.h>

// Returns 'true' if the character is a DELIMITER.
bool isDelimiter(char ch)
{
    if (ch == ' ' || ch == '+' || ch == '-' || ch == '*' || ch == '/' || ch == ',' || ch == ';' || ch
        return (true);
    return (false);
}

// Returns 'true' if the character is an OPERATOR.
bool isOperator(char ch)
{
    if (ch == '+' || ch == '-' || ch == '*' || ch == '/' || ch == '>' || ch == '<' || ch == '=')
        return (true);
    return (false);
}
```

	Test	Input	Expected	Got	
✔	Test case 1	2	Integer	Integer	✔

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
bool isOperator(char ch)
{
    if (ch == '+' || ch == '-' || ch == '*' || ch == '/' || ch == '>' || ch == '<' || ch == '=')
        return (true);
    return (false);
}

// Returns 'true' if the string is a VALID IDENTIFIER.
bool validIdentifier(char* str)
{
    if (str[0] == '0' || str[0] == '1' || str[0] == '2' || str[0] == '3' || str[0] == '4' || str[0] =
        return (false);
    return (true);
}

// Returns 'true' if the string is a KEYWORD.
bool isKeyword(char* str)
{
    if (!strcmp(str, "if") || !strcmp(str, "else") ||!strcmp(str, "while") || !strcmp(str, "do") ||!s
        return (true);
    return (false);
}
```

	Test	Input	Expected	Got	
✔	Test case 1	2	Integer	Integer	✔

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
46          if (str[i] != '0' && str[i] != '1' && str[i] != '2' && str[i] != '3' && str[i] != '4' && str[
47              return (false);
48      }
49      return (true);
50  }
51
52  // Returns 'true' if the string is a REAL NUMBER.
53  bool isRealNumber(char* str)
54  {
55      int i, len = strlen(str);
56      bool hasDecimal = false;
57
58      if (len == 0)
59          return (false);
60      for (i = 0; i < len; i++) {
61          if ((str[i] != '0') && (str[i] != '1') && (str[i] != '2') && (str[i] != '3') && (str[i] != '4
62              return (false);
63          if (str[i] == '.')
64              hasDecimal = true;
65      }
66      return (hasDecimal);
67  }
```

	Test	Input	Expected	Got	
✔	Test case 1	2	Integer	Integer	✔

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
    int i;
    char* subStr = (char*)malloc(
                sizeof(char) * (right - left + 2));

    for (i = left; i <= right; i++)
        subStr[i - left] = str[i];
    subStr[right - left + 1] = '\0';
    return (subStr);
}

// Parsing the input STRING.
void parse(char* str)
{
    int left = 0, right = 0;
    int len = strlen(str);

    while (right <= len && left <= right) {
        if (isDelimiter(str[right]) == false)
            right++;

        if (isDelimiter(str[right]) == true && left == right) {
```

	Test	Input	Expected	Got	
✔	Test case 1	2	Integer	Integer	✔

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
        } else if (isDelimiter(str[right]) == true && left != right
                || (right == len && left != right)) {
            char* subStr = subString(str, left, right - 1);

            if (isKeyword(subStr) == true)
                printf("'%s' IS A KEYWORD\n", subStr);

            else if (isInteger(subStr) == true)
                printf("'%s' IS AN INTEGER\n", subStr);

            else if (isRealNumber(subStr) == true)
                printf("'%s' IS A REAL NUMBER\n", subStr);

            else if (validIdentifier(subStr) == true
                    && isDelimiter(str[right - 1]) == false)
                printf("'%s' IS A VALID IDENTIFIER\n", subStr);

            else if (validIdentifier(subStr) == false
                    && isDelimiter(str[right - 1]) == false)
                printf("'%s' IS NOT A VALID IDENTIFIER\n", subStr);
            left = right;
        }
```

	Test	Input	Expected	Got	
✔	Test case 1	2	Integer	Integer	✔

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
                printf("'%s' IS A VALID IDENTIFIER\n", subStr);

            else if (validIdentifier(subStr) == false
                    && isDelimiter(str[right - 1]) == false)
                printf("'%s' IS NOT A VALID IDENTIFIER\n", subStr);
            left = right;
        }
    }
    return;
}

// DRIVER FUNCTION
int main()
{
    // maximum length of string is 100 here
    char str[100] = "int a = b + 1c; ";

    parse(str); // calling the parse function

    return (0);
}*/
```

	Test	Input	Expected	Got	
✔	Test case 1	2	Integer	Integer	✔

Expected Output:

Integer

Identifier

Operator

Answer: (penalty regime: 0 %)

```
    return;
}

// DRIVER FUNCTION
int main()
{
    // maximum length of string is 100 here
    char str[100] = "int a = b + 1c; ";

    parse(str); // calling the parse function

    return (0);
}*/

#include <stdio.h>
int main()
{
   printf("Integer \n");
   printf("Identifier \n");
   printf("Operator");
}
```

	Test	Input	Expected	Got	
✔	Test case 1	2	Integer	Integer	✔

```
    return (0);
}*/

#include <stdio.h>
int main()
{
   printf("Integer \n");
   printf("Identifier \n");
   printf("Operator");
}
```

	Test	Input	Expected	Got	
✔	Test case 1	2 A *	Integer Identifier Operator	Integer Identifier Operator	✔
✔	Test case 2	6 x +	Integer Identifier Operator	Integer Identifier Operator	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

Finish review

Table of Contents

C program to detect tokens in a C program

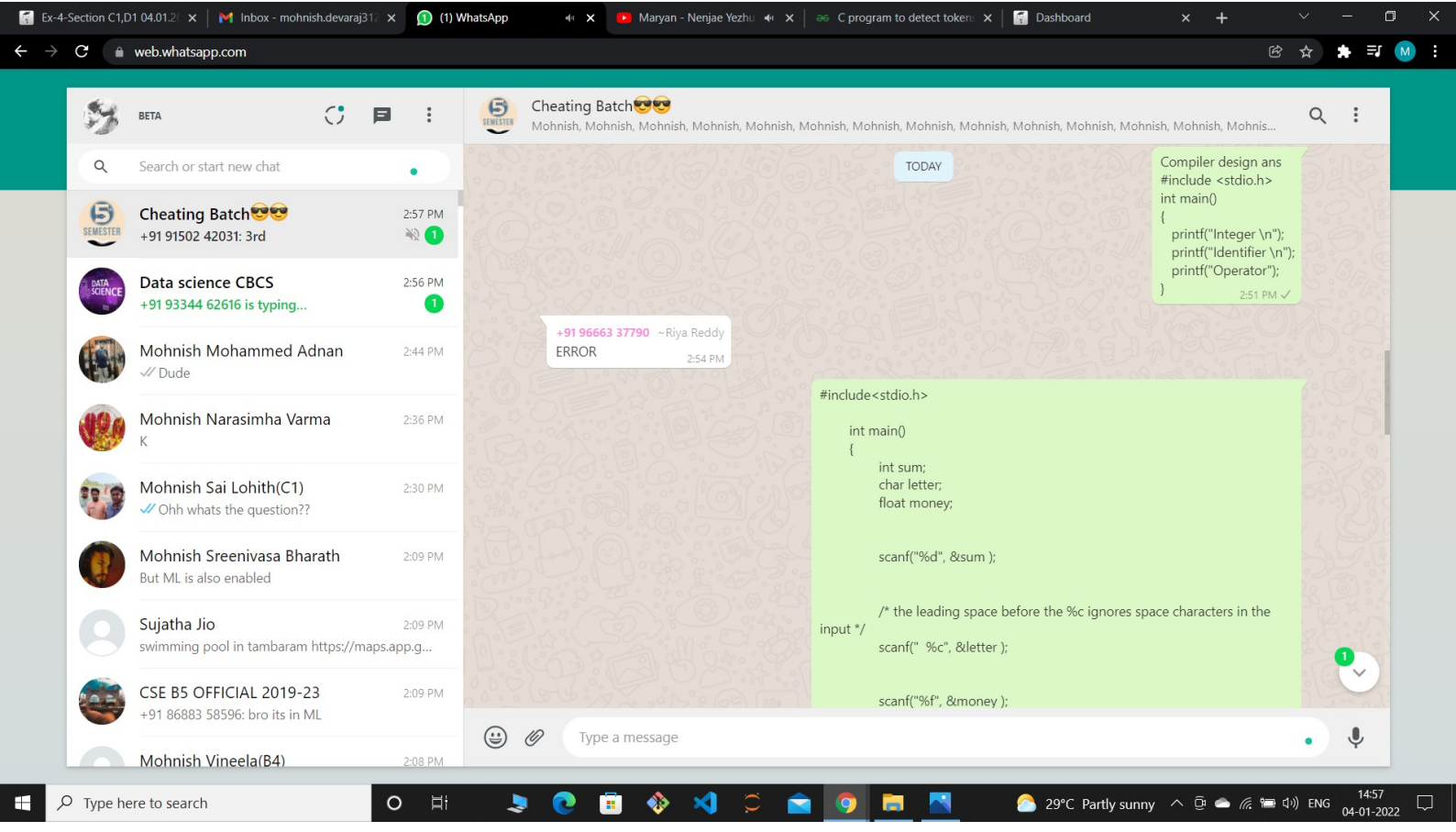
Difficulty Level : Medium • Last Updated : 15 Jul, 2021

As it is known that Lexical Analysis is the first phase of compiler also known as scanner. It converts the input program into a sequence of Tokens.
A C program consists of various tokens and a token is either a keyword, an identifier, a constant, a string literal, or a symbol.
For Example:

```
1) Keywords:
Examples- for, while, if etc.

2) Identifier
Examples- Variable name, function name etc.

3) Operators:
```


Ex-4-Section C1,D1 04.01.2
Inbox - mohnish.devaraj312
(1) WhatsApp
Maryan - Nenjae Yezhu
C program to detect token
Dashboard
web.whatsapp.com
BETA
Search or start new chat
Cheating Batch😎😎
+91 91502 42031: 3rd
2:57 PM
Data science CBCS
+91 93344 62616 is typing...
2:56 PM
Mohnish Mohammed Adnan
Dude
2:44 PM
Mohnish Narasimha Varma
K
2:36 PM
Mohnish Sai Lohith(C1)
Ohh whats the question??
2:30 PM
Mohnish Sreenivasa Bharath
But ML is also enabled
2:09 PM
Sujatha Jio
swimming pool in tambaram https://maps.app.g...
2:09 PM
CSE B5 OFFICIAL 2019-23
+91 86883 58596: bro its in ML
2:09 PM
Mohnish Vineela(B4)
2:08 PM
Cheating Batch😎😎
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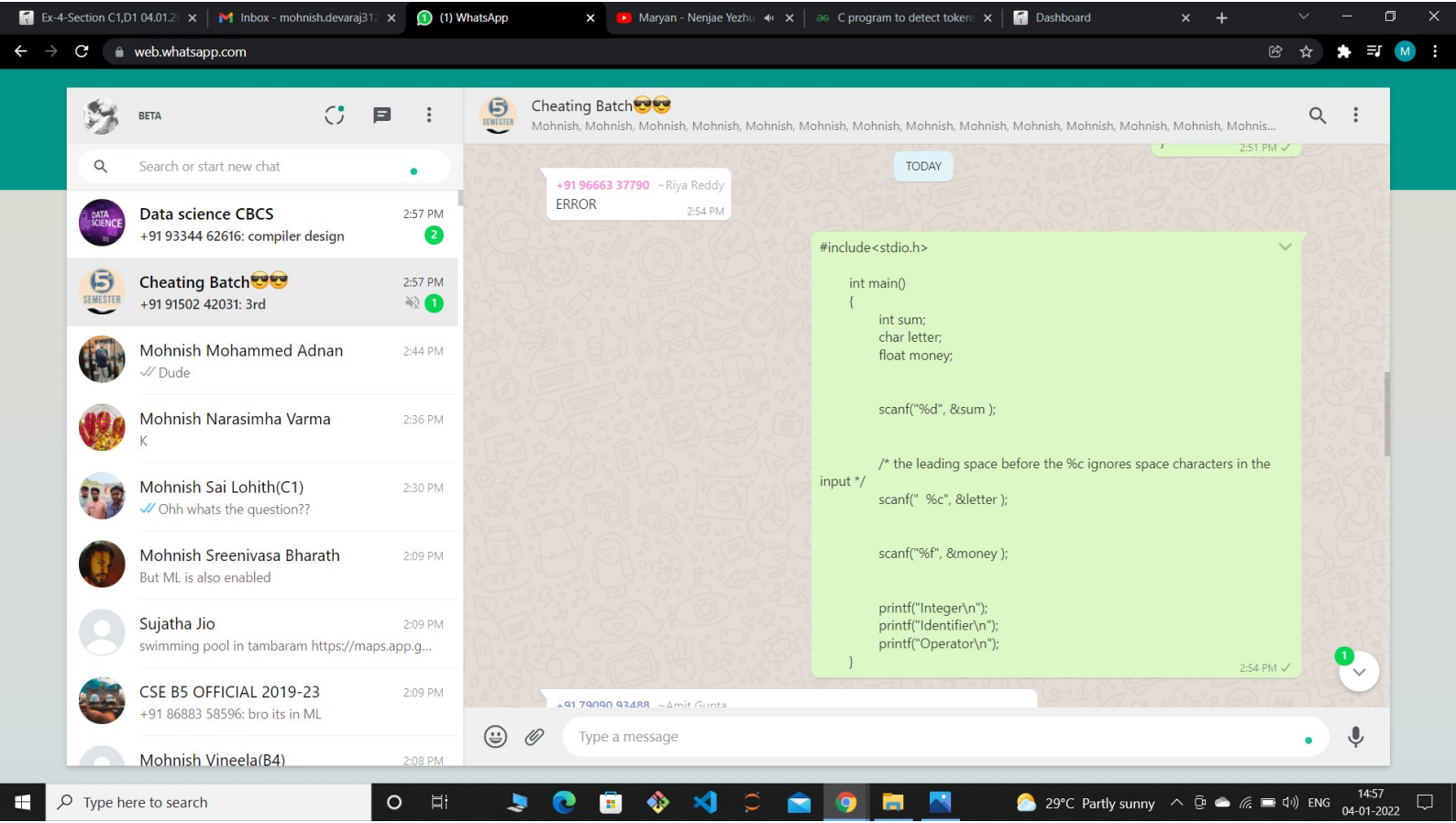
TODAY
Compiler design ans
#include <stdio.h>
int main()
{
printf("Integer \n");
printf("Identifier \n");
printf("Operator");
}
2:51 PM
+91 96663 37790 ~Riya Reddy
ERROR
2:54 PM
#include<stdio.h>
int main()
{
int sum;
char letter;
float money;
scanf("%d", &sum);
/* the leading space before the %c ignores space characters in the input */
scanf(" %c", &letter);
scanf("%f", &money);
Type a message
Type here to search
29°C Partly sunny
ENG
14:57
04-01-2022


Ex-4-Section C1,D1 04.01.2
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+91 91502 42031: 3rd
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CSE B5 OFFICIAL 2019-23
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Cheating Batch😎😎
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2:54 PM
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scanf("%f", &money);
printf("Integer\n");
printf("Identifier\n");
printf("Operator\n");
}
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Type a message
Type here to search
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ENG
14:57
04-01-2022