

Lab Performance (01)

1. Write a C/C++ program that can read program from a file and detect all the tokens (e.g. valid or invalid identifier, keyword, operator) from the file.

For example:

A screenshot of a Notepad window titled "program.txt - Notepad". The window has a menu bar with "File", "Edit", "Format", "View", and "Help". The text area contains the following C++ code:

```
void main(){
    int a,b,c;
    c = a + b;
}
```

A screenshot of a command prompt window titled "Select \"K:\Compiler Design\Lab\Lab 3\Lab 3\two_tokens.exe\"". The window displays the output of a program that tokenizes the code from the previous screenshot. The output is as follows:

```
'void' is keyword
'main' is keyword
'int' is keyword
'a' is identifier
'b' is identifier
'c' is identifier
'c' is identifier
'=' is operator
'a' is identifier
'+' is operator
'b' is identifier

Process returned 0 (0x0)   execution time : 0.102 s
Press any key to continue.
```

2. Write a C/C++ program to check if expression is correctly parenthesized or not.

For example:

A screenshot of a command prompt window showing the input and output of a program that checks if an expression is correctly parenthesized. The input is "Enter expression: a+(b*c)/e-(f+g*(h^i))/j". The output is "Expression is valid.". The window also shows "Process returned 0 (0x0) execution time : 57.189 s" and "Press any key to continue.".

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3. Write a C/C++ program that can remove comment lines from a program (a task of preprocessor).

For example:

```
Before removing comment:

#include <stdio.h>

int main()
{
    printf("Hello World"); //This is a single line comment
    return 0;

    /* This is a
    multi line
    comment... */
}
v1.0;C:\Win

After removing comment:

#include <stdio.h>

int main()
{
    printf("Hello World");    return 0;
}
v1.0;C:\Win
Process returned 0 (0x0)    execution time : 0.101 s
Press any key to continue.
```