

CSE4130: Formal Languages and Compilers Lab
Semester: Fall 2017

Session1: Scanning and Filtering a Source Program

Assignment:

You are given a C source program with single and multiple line comments. As the first step toward compilation you need to remove the comments and white space (extra spaces, tabs and newline characters).

Develop a program that takes as input file the given source program and produces a filtered file as stated above. The program must also display both the files.

Sample input file:

```
#include<stdio.h>

int  main (void )
{
    // Single           Line           Comment

    printf ("Hello");
    /* Multi
                                   Line
        Comment
    */
    printf("World");
    return 0;
}
```

Corresponding output file:

```
#include<stdio.h> int main(void) { printf ("Hello"); printf("World"); return 0; }
```

An example with useful tools:

datafile1.cpp

```
/* Store in a file all the curly braces of a C source program in the order they occur there. */
```

```
#include <stdio.h>
```

```
int main(void)
```

```
{
```

```
    FILE *p1,*p2; char c;
```

```
    p1 = fopen("datafile1.cpp", "r");
```

```
    p2 = fopen("curlyBraces.txt","w");
```

```
    if(!p1) printf("\nFile can't be opened!");
```

```
    else {
```

```
        while((c = fgetc(p1)) != EOF) {
```

```
            if ((c == '{') || (c == '}'))
```

```
                fputc(c, p2); } }
```

```
    fclose(p1);
```

```
    fclose(p2);
```

```
    p2 = fopen("curlyBraces.txt","r");
```

```
    while((c=fgetc(p2))!=EOF)
```

```
        printf("%c",c);
```

```
    fclose(p2);
```

```
    return 0;
```

```
}
```

Output of the program: {{{{}}}}}