

Compilers Assignment 1:

Use Lex/Flex and Yacc/Bison to process “#define” macros in C file.

C language has #define macros and they should be expanded before C compiler can compile.

```
#define CONST 5
```

The above macro will replace CONST at all places with 5.

The structure of a macro is “#define <string1> <string2>”.

There are several issues in using these macros.

1. The #define macros can be defined using another #define

```
#define CONST 5  
#define ANOTHER_CONST CONST+5
```

2. Arguments can be passed in macro – with space can be given after open bracket in string1

```
#define SQUARE_AREA(s) (s * s)  
#define MULT( a, b) (a * b)
```

3. It supports any number of spaces in the string2. Following are valid macros.

```
#define IF if(  
#define THEN )
```

Input: C file with #define macros

Output: C file with no #define macros. All macros are processed as they are defined to be processed by C pre-processor.