The lexical analyzer generator — Lex (Lab Work 03)

Exercise 1.

There are two types of comments in the C language:

- **The first type of comment** begins with the sequence `/*` (slash followed by an asterisk) and ends with the reverse sequence `*/` (asterisk followed by a slash). However, a comment cannot begin inside another comment.

For example:
```
/* This is a C comment */

/*
 This is a C comment
 written on multiple lines
*/
```

- **The second type of comment** occurs at the end of a line. These comments stop at the end of the current line and do not continue to the next.

For example:
```
some_action();  // This is a comment

next_action();  // This is another comment
```

Question:
Write a **LEX program** that ignores comments in a C program.

Test your program on a real C file, such as `lex.yy.c`.

Exercise 2.

The C language reference manual describes identifiers as follows:

An **identifier** is a sequence of letters and digits. The first character must be a letter; the underscore character _ counts as a letter. Uppercase and lowercase letters are distinguished. Identifiers may be of any length.

Question:
Using **Lex**, write a program that recognizes **C identifiers** (the program should display the recognized identifiers and ignore everything else).

Test your program on a real C file, such as lex.yy.c.

The identifiers of interest are of the following types: **int**, **float**, **unsigned int**, **char**, and **unsigned char**.