

## Homework 2

This homework is due at **11 PM on Feb 11 2020**. *It will not be accepted late.*  
Make sure to follow the [submission instructions](#).

Java (as well as C and C++) allows comments delimited by `"/*"` and `"*/"`. This kind of comment can be defined in English as follows:

A comment consists of three parts:

1. a slash followed by a star, followed by
2. the body of the comment, followed by
3. a star followed by a slash.

The body of the comment can be empty, or can contain any characters except the two-character sequence `"*/"`.

Note that the body of a comment *can* include stars and slashes, just not `"*/"`.

Assume that the following JLex macros have been defined:

```
SLASH    = [ / ]
STAR     = [ * ]
```

### Question 1:

Below are 5 *incorrect* JLex patterns for the kind of comment defined above. For each pattern, explain what is wrong. For example, you might say *The pattern does not allow the comment body to include stars*, or *The pattern does allow the comment body to include \*/*. If the pattern both disallows some "good" comments and allows some "bad" comments, you need to give two explanations, one for each issue. In addition to the explanations, you need to provide example strings that illustrate each issue; i.e., give a string that is *not* matched by the pattern but is a "good" comment and/or give a string that *is* matched by the pattern but is a "bad" comment. *Be sure that it is clear whether your example strings are intended to be "good" or "bad" comments.*

```
{SLASH}{STAR}[^(*/)]*{STAR}{SLASH}
{SLASH}{STAR}(.)*{STAR}{SLASH}
{SLASH}{STAR}([ ^]*{STAR}+[ ^*/])*{STAR}+{SLASH}
{SLASH}{STAR}([ ^*]|[ ^*/])+{STAR}{SLASH}
{SLASH}{STAR}[ ^*]*{STAR}+{SLASH}+
```

### Question 2:

Give a correct JLex pattern for comments as defined above. You may define and use additional macros. Make your pattern as readable as possible.