

EECS665

Compiler Construction

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Lecture: LEEP2 G415
MWF 3:00-3:50

Lab: Eaton 1005B

ANOUNCEMENTS

LAB

SCHEDULE

MATERIALS

ASSIGNMENTS

Homework 2

Due on September 7th @ 3:00 PM (in class, to Drew, or at Engineering front office)

Not accepted late

Many imperative programming languages (such as Java, 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 Flex macros have been defined:

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

Question 1

Below are 5 **incorrect** Flex 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, give two explanations, one for each problem with the pattern. Then, for each problem with the pattern, give a string that illustrates the problem; 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 Flex pattern for comments as defined above. You may define and use additional macros. Make your pattern as readable as possible.

