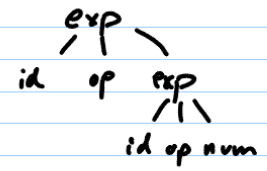
publicclass Yahtzee()

id id ( ) scanner

parser sees that id id can't appear where class def would start

(var || var == 0)

(id op id op num) scanner



parser

semantic error — can't || int (or can't == 0 a boolean)

' public class Yahtzee {

int x = 'a'

syntax or semantic?

```
public abstract class Shape
{
   :
}
public class Circle extends Shape
{
   :
   int radius;
}
public class Rectangle extends Shape
{
   :
   int w, h;
}
```

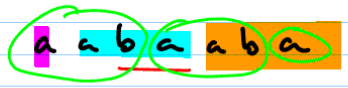
```
struct shape
{
   int type;
   union {
      int radius;
      struct {int w, int h;}
   };
};
```

how could the compiler check that you're using the fields in the union correctly?

G → S $$
S → A M
M → S | ϵ
A → a E | b A A
E → a B | b A | ϵ
B → b E | a B B

any number of nonterminal A's

1 more a
equal # a's and b's
1 more b



S ⇒ AM ⇒ AS ⇒ AAM ⇒ AAS ⇒ AAAM ⇒ AAA ⇒ aEAA ⇒ aAA
⇒ aaEA ⇒ aabAA ⇒ aababEA ⇒ aababA
⇒ aababaE ⇒ aabababa

Ambiguous, so not LL(1)

Could also compute First, Follow, Predict and check if
Predict(X → ...) Predict(X → ...) are disjoint