CSE 12 spring 2014 Week 10 Review Quiz

Use self-paced polling to answer these questions with your clicker. In addition, circle your answers on this form and turn it in as a record of your answers in case there are any disputes about your answers.

Questions 1-4 refer to the following grammar:

\[
Q := R \mid \#R \mid \#S
\]

\[
R := \& \mid \&R
\]

\[
S := \$ \mid \$R
\]

1. Which of the following strings CANNOT be produced by this grammar?
   A. #$&         B. &
   C. $&         D. #$          E. &&

2. Is the following a valid derivation of the string #&$?
   Q => #S => #R$ => #&$
   A. Yes         B. No

Consider the following method to parse the S rule using the recursive decent algorithm that you implemented in HW8. Assume you have a list of tokens stored as Strings in the member variable toks. Unlike HW8, this method does not return an AST. It simply throws an error if the token list does not represent a valid expression according to the rules of the grammar. If there is no error it simply returns after consuming its tokens from the token list.

```java
public void S()  {
    String next = toks.peek();
    if ( !"__".equals( next ) ) {   // blank for Q3
        throw new ParseError( "Unexpected token: " + next );
    }
    toks.pop();
    [CODE FOR Q4 goes here]
}
```

3. What goes in the blank on the line marked “blank for Q3”?
   A. R   B. S   C. #   D. &   E. $

4. Which of the following blocks of code should be inserted where it says [CODE FOR Q4 goes here]?
   A. ```java
      if ( toks.peek() != null ) {
          S();
      }
   ```
   B. ```java
      if ( toks.peek() != null ) {
          R();
      }
   ```
if ( toks.peek().equals( "#" ) ) {
    Q();
}