HW4  Due Sep 7  20 points

1) Consider the following grammar:
\[ <S> \rightarrow <A> \ a \ <B> \ b \]
\[ <A> \rightarrow <A> \ b \ b \]
\[ <B> \rightarrow a \ <B> \ a \]

Which of the following sentences are in the language generated by this grammar?
   a. baab
   b. bbbab
   c. bbaaaa
   d. bbaab

2) Consider the following grammar:
\[ <S> \rightarrow a \ <S> \ c \ <B> \ b \]
\[ <A> \rightarrow c \ <A> \ c \]
\[ <B> \rightarrow d \ <A> \]

Which of the following sentences are in the language generated by this grammar?
   a. abcd
   b. accecbd
   c. accecbcc
   d. acd
   e. accc

3) Write a grammar for the language consisting of strings that have \( n \) copies of the letter \( a \) followed by the same number of copies of the letter \( b \), where \( n > 0 \). For example, the strings \( ab \), \( aaaaabbb \), and \( aaaaaaaaaabbbbbbbbb \) are in the language but \( a \), \( abb \), \( ba \), and \( aaabb \) are not

4) What is the difference between an intrinsic attribute and a nonintrinsic synthesized attribute?