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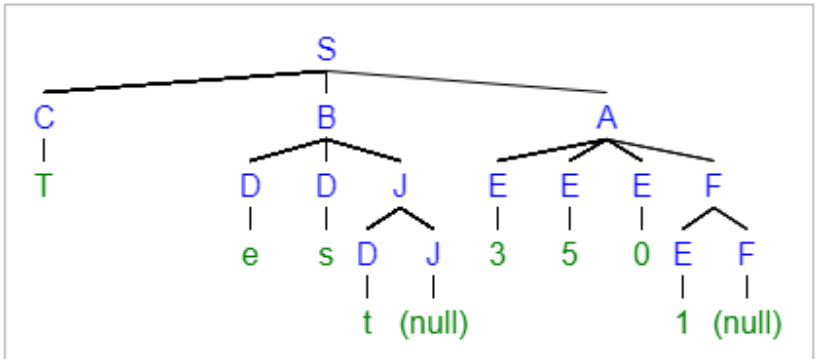
Homework 3

Question 1
Write a BNF grammar for the given language.
C is the first letter which is Capital
B represents the small letters
A represents 3 or more digits

<S> -><C><B><A> S is a sentence
<C> ->A|B|C|D|E|F|â€¦..etc. C is any letter thats Capital
<B> -><D><D><J> There are two Ds and a conditional J that represents '2 or more small letters'
<D> -> a|b|c|d|e...etc
<J> -> <D><J> | Ïµ Loops in order to look for the possibility of more small letters
<A> -> <E><E><E><F> A represents 3 or more numbers

Sub-question



S->CBA->TBA->TDDJA->TesDJA->TestEEEF->Test350F->Test3501 The derivation for Test 3501

Question 2

<assign> -> <var> = <expr>
<var>(int) = <expr>(int)
<var>(float) = <expr> (int/float)

<expr> -> <var>+<var>
<expr>(int) -> var(int) + <var>(float/int)
<expr>(float)-> <var> (float) +<var>(int/float)

<expr> -> <var> -<var>
<expr> (int) -> <var>(float) -<var>(int/float)
<expr>(float) -> <var>(float) -<var>(int/float)

<exp> -> <var>
<expr> (int) -> <var> (int)
<expr>(float) -> <var> (float/int)

var-> A|B|C
<var>(int) -> a(int)|B(int)|C(int)
<var> (float) -> A(float) | B (float) | C (float)