CS301 Theory Of Automata

Home task 4

**Question 1: CFG**

**Construct a CFG which generates the following languages:**

1. **L1 ={ anbn|n≥1}**
2. **L2 ={ anbman|n≥1}**

**Question 2: CFG**

***A grammar  G which is context-free has the productions*  
  
*S → aAB*  
*A → Bba*  
*B → bB*  
*B → c*****Give the derivation and parse tree for the word w=acbabc.**

**Question 3:**

***A CFG given by productions is  
  
S →  aSb  
S → ab***

***Obtain the Language generated by L(G).***

**Question 3: CFG**

***Give grammars for Language, All binary strings with both an even number of zeroes and an even number of ones.***

**Question 4: CFG**

***Give a context free grammar for L***

***L = {w|w∈ 0^n1^n+1 ; n≥0}***

**Question 4:**

**A CFG given by productions isS →  aBS →  bAA →  aSA →  aAAA →  aB →  bSB →  aBBB →  bobtain the leftmost derivation and rightmost derivation for the string “aaabbabbba”**

**Question 5:**

**Prove the grammar is ambiguous S →  a | aAb | abSbA →  aAAb | bS**

**Note : here you can suppose a string of your own wish ,but it belongs to language.**