Write CFGs for each of the following

- $L1 = \{0^i\, 1^j\, 2^k \mid i=j$ or $j=k$, where $i,j,k \geq 0\}$
- $L2 = \{0^i\, 1^j\, 2^k \mid i=j$ or $i=k$, where $i,j,k \geq 1\}$
- $L3 = \{ w \mid w \in \{a,b\}^*$ and w is a palindrome $\}$
- $L4 = \{a^n\, b^m\, c^i \mid 0 \leq n+m \leq i \}$
- $L5 = \{$ set of arithmetic expressions involving $+, -, *, /, \wedge, (,), v \}$
  - Here v is a variable or a constant. The standard precedence applies where ^ is exponentiation and is the highest precedence operator and is associated right to left. The other operators are associated left to right.