PDA PRACTICE

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PRACTICE SET-1

Design a Push-Down Automaton for each one of the following languages:

1. $L = \{ a^n b^n \mid n >= 0 \}$
2. $L = \{ a^n b^{2n} \mid n >= 0 \}$
3. $L = \{ a^{2n} b^n \mid n >= 0 \}$

4. $L = \{ a^{n+1} b^n \mid n > 0 \}$
5. $L = \{ a^{2n+1} b^n \mid n > 0 \}$

6. $L = \{ a^{n+m} b^{m+t} a^t b^n \mid n,t > 0 \text{ and } m >= 0 \}$
7. $L = \{ a^{n+m} b^{m+t} a^t b^n \mid n, t, m > 0 \}$

PRACTICE SET-2

- $L = \{ 0^n \, 1^m \, 2^m \, 3^n \mid n \geq 1, m \geq 1 \}$

- $L = \{ 0^n \, 1^m \, 2^m \, 3^n \mid n, m \geq 0 \}$

- $L = \{ 0^n \, 1^m \, 2^{n+m} \mid m, n \geq 0 \}$

- $L = \{ 0^m \, 1^{n+m} \, 2^n \mid m, n \geq 0 \}$

- $L = \{ 0^{n+m} \, 1^m \, 2^n \mid m, n \geq 0 \}$

- $L = \{ 0^n \, 1^m \mid n \geq 1, m \geq 1, m > n+2 \}$

- $L = \{ a^{2m} \, c^{4n} \, d^n \, b^m \mid m, n \geq 0 \}$