

On my honor I hereby swear that, I have never given or received any unauthorized aid for inappropriate assistance for all sessions of this exam. The work done on this exam is totally my own. I understand that by the school code violation of these principles will lead to zero grade and is subject to harsh discipline issues.

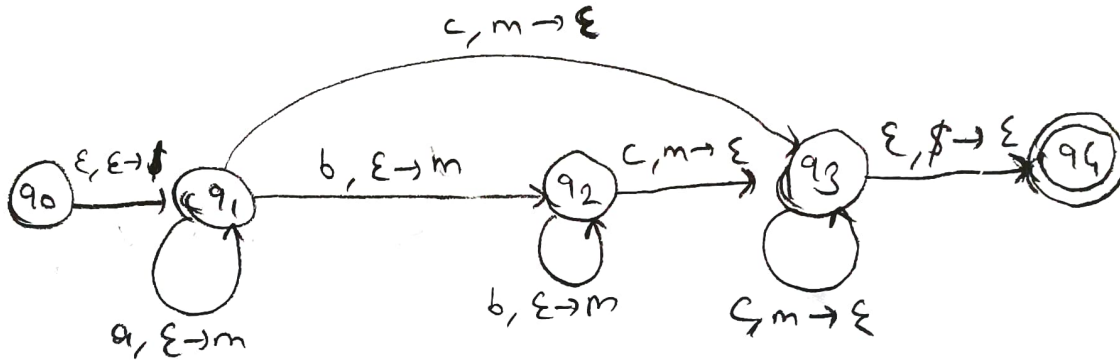
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Q1) $L = \{a^x b^y c^z \mid x, y, z \geq 0 \text{ and } 3x + 2y = z\}$



$$3x + 2y = z$$

abcccc

Q2) $L_1 = \{a^m b^n c^n \mid m, n \geq 0\}$
 $L_2 = \{a^n b^n c^m \mid m, n \geq 0\}$

These are context free languages.

we can write such a PDA by combining them and this is also CFL.

Because PDA's are non-deterministic

