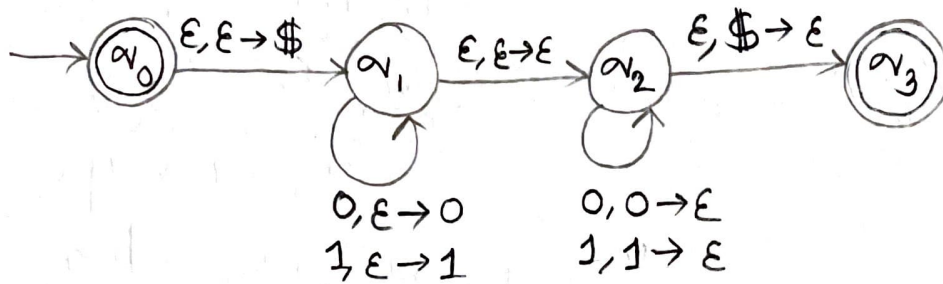


CSE331
ASSIGNMENT 3

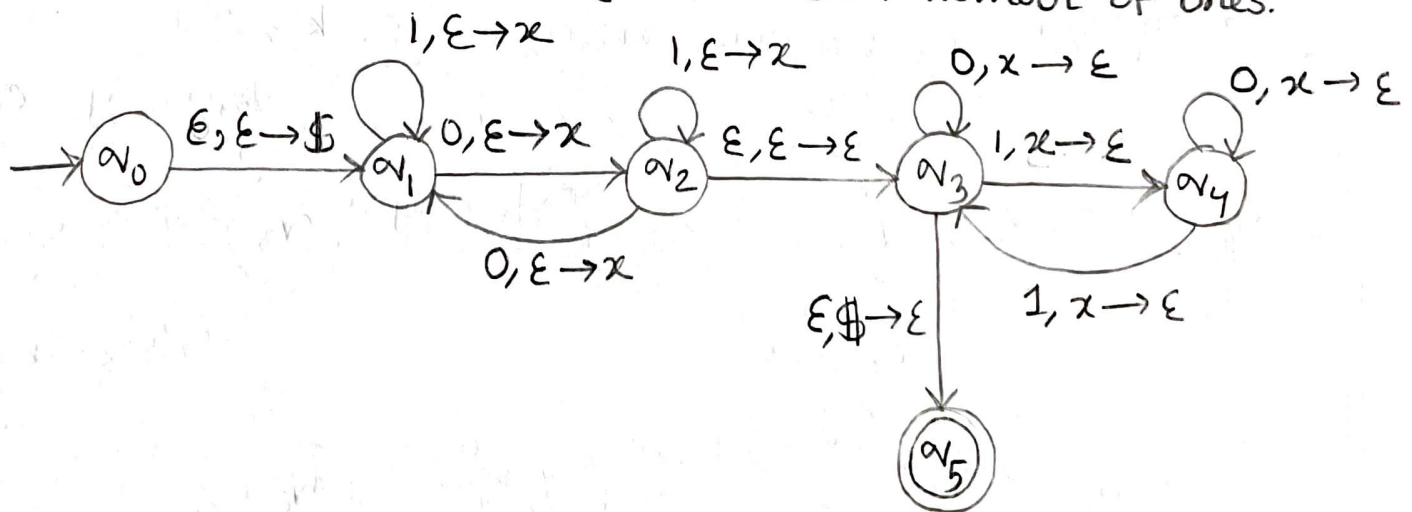
Submitted by: Masiat Hasin Rodoshi
ID : 19201089
Section : 1

1) $L = \{ww^R : w \in \{0,1\}^*\}$



2) $L = \{w \in \{0,1\}^* : w = uv \text{ where } u \in L_1, v \in L_2, |u| = |v|\}$

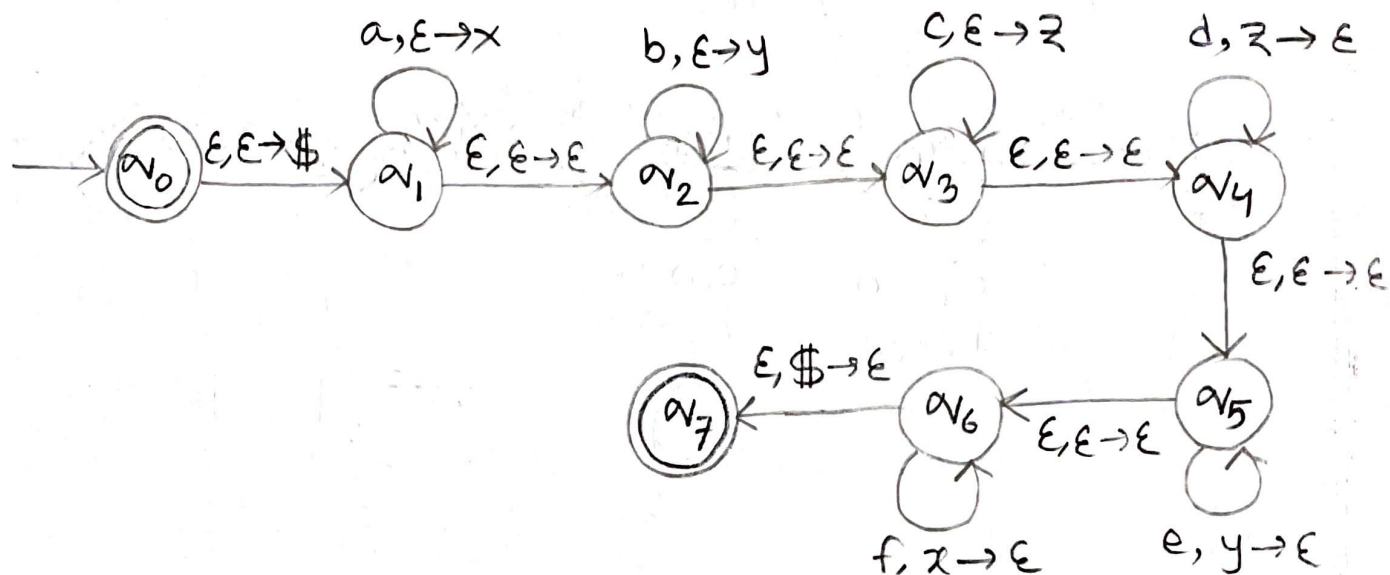
Here, L_1 = Set of strings with odd number of zeros
 L_2 = Set of strings with even number of ones.



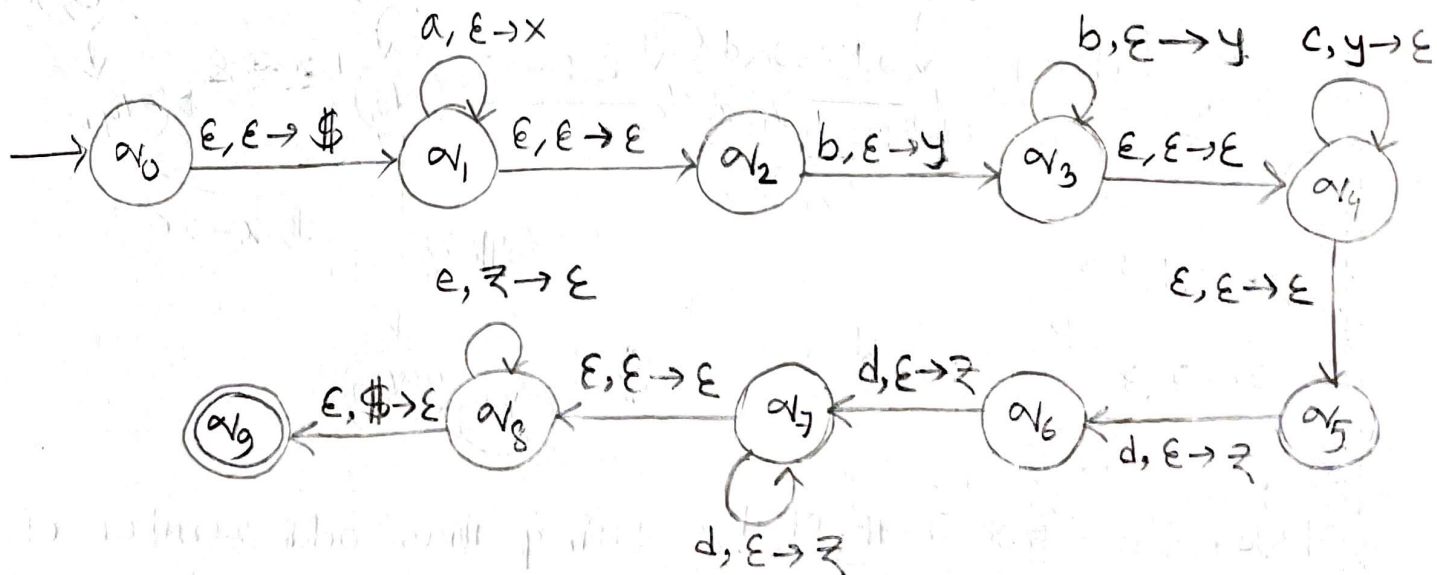
Here, the first half of the string has odd number of zeros and the second half of the string has even number of ones. When $|u| = |v|$ is even, number of zeros and ones are both odd. When $|u| = |v|$ is odd, number of zeros and ones are both even.

PDA

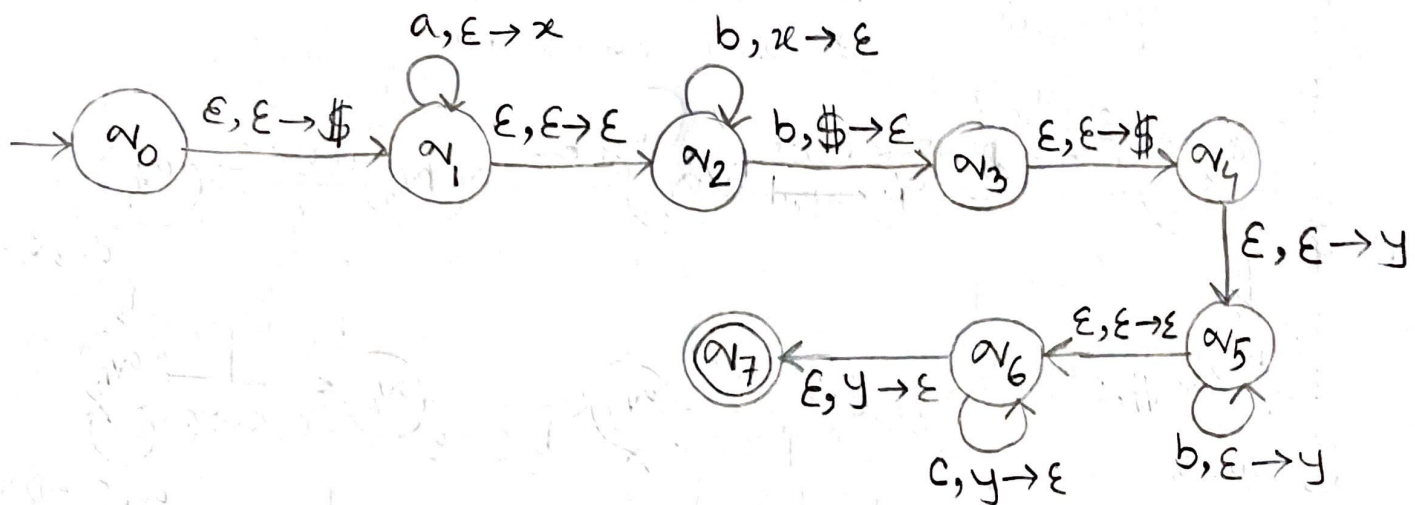
1) $a^n b^m c^k d^k e^m f^n$: where $n, m, k \geq 0$.



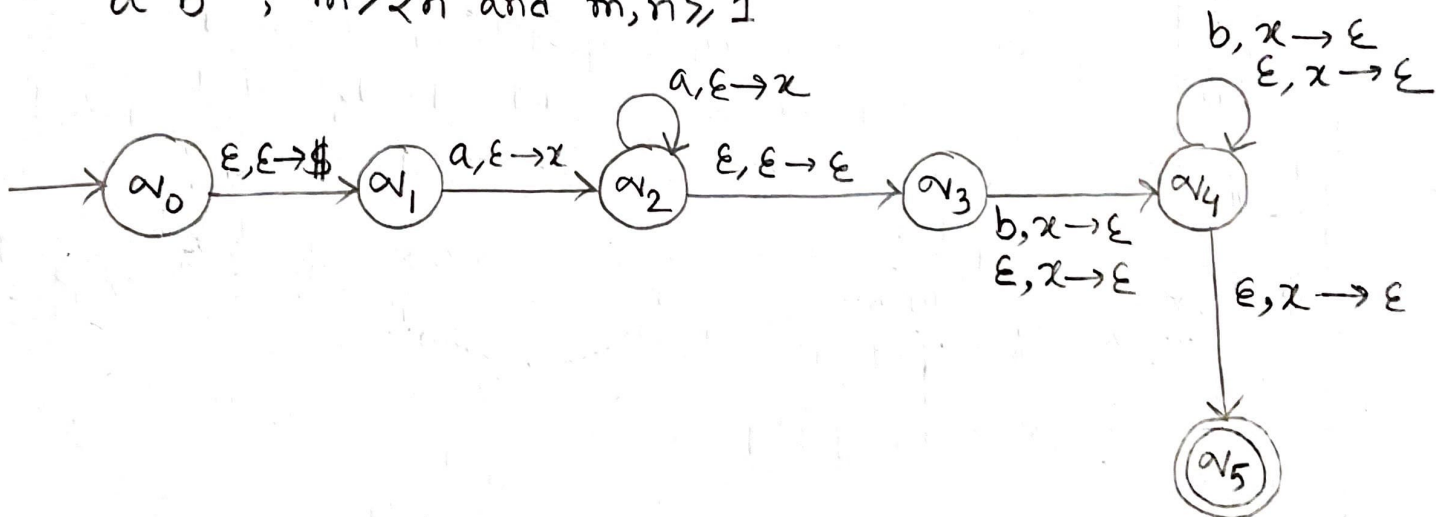
2) $a^n b^m c^m d^k e^k f^n$; where $n \geq 0, m \geq 1, k \geq 2$



3) $a^m b^n c^p$; $n > m + p$



4) $a^m b^n$; $m > 2n$ and $m, n \geq 1$



5) $a^n b a^m b a^{n+m}$; $m, n \geq 1$

