TOC Assignment no. 4

Name: Shivam Tawari
Roll no: A-58

①

1.) $\{0, 1, 2\}$

$\Rightarrow R = 0 + 1 + 2$

2) $\{\wedge, ab\}$

$\Rightarrow R = \wedge ab$

3) $\{abb, a, b, bba\}$

$\Rightarrow R = abb + a + b + bba$

4) $\{\wedge, 0, 00, 000, \ldots\}$

$\Rightarrow R = 0^*$

5) $\{1, 11, 111, 1111, \ldots\}$

$\Rightarrow R = 1^+$

② Regular expressions are specially encoded text strings used as patterns for matching sets of strings. It is a method used in programming for pattern matching.

Examples :

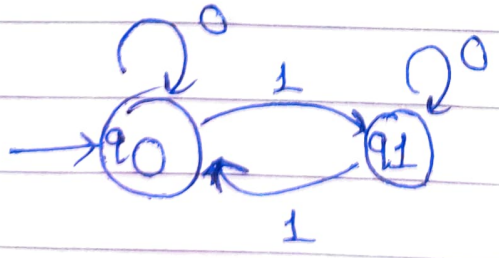
ⓐ $\{0, 1, 10, 100, 1000, 10000, \cdots\}$

Regular Expression ⇒ $(0 + 10^*)$

ⓑ $\{\varepsilon, 0, 1, 01\}$

Regular Expression ⇒ $\{\varepsilon, 0, 1, 01\}$

③ DFA that accepts strings having an odd number of 1's :



Regular Expression ⇒ $0^* 1(0 + 10^* 1)^*$