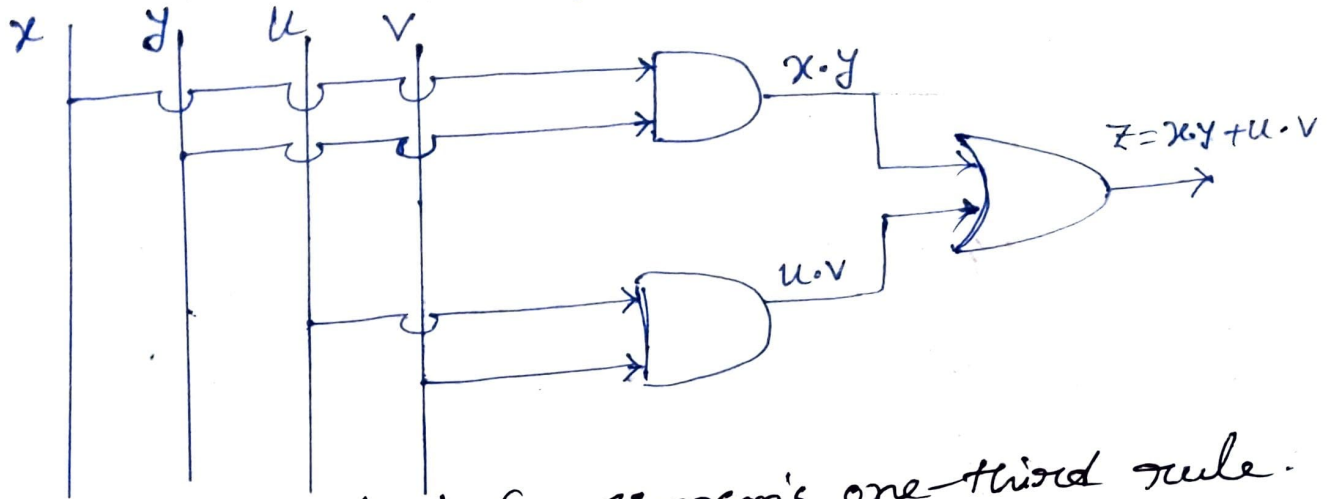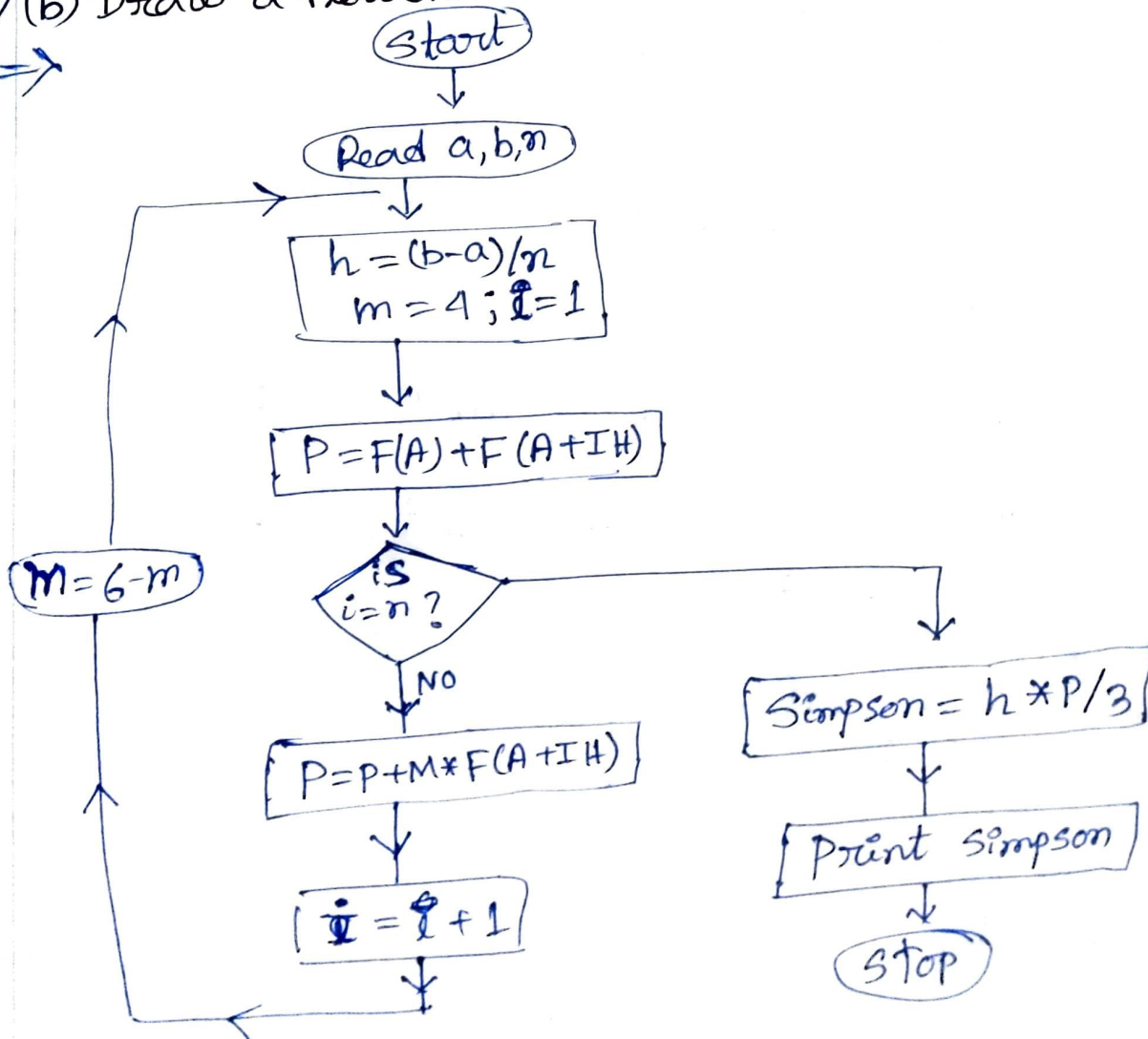5) (d) Use only AND and OR logic gates to construct a logic circuit for the Boolean expression, $Z = xy + uv$.

$\Rightarrow$ we get $x \cdot y$ by using one AND gate and $u \cdot v$ by using another one AND gate & one OR gate ~~use~~ can be used to provide $Z = xy + uv$

7) (b) Draw a flowchart for Simpson's one-third rule.

8)(b) For any Boolean variables x and y, show that,

$$x + xy = x$$

$\Rightarrow$ L.H.S

$x + xy$

$= x(1 + y)$

$= x \cdot 1 \qquad [\because$ in Boolean algebra $1 + A = 1]$

$= x$

so, $x + xy = x$ [proved]