CHAPTER 03

Pair of Linear Equations in Two Variables

Sol.

Let the number of Rs.50 notes be ‘x’.

Let the number of Rs.100 notes be ‘y’.

Then, $x+y=25 \Rightarrow x+y-25=0 \text{------}(1)$

$$a_1x+b_1y+c_1=0$$

and

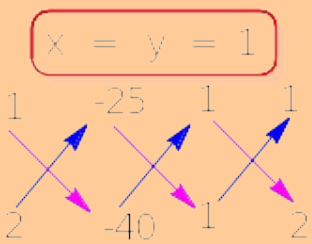
$50x+100y=2000 \Rightarrow 50x+100y-2000=0$

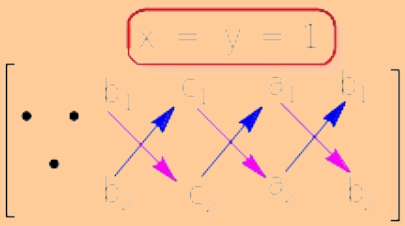
$\Rightarrow 50(x+2y-40)=0$

$\Rightarrow x+2y-40=0 \text{------}(2)$

$$a_2x+b_2y+c_2=0$$

Solve the (1) & (2) by cross multiplication method,





Then, $\frac{x}{(1)(-40)-(2)(-25)}=\frac{y}{(-25)(1)-(-40)(1)}=\frac{1}{(1)(2)-(1)(1)}$

i.e. $\frac{x}{-40+50} = \frac{y}{-25+40} = \frac{1}{2-1}$

i.e. $\frac{x}{10} = \frac{y}{15} = \frac{1}{1}$

i.e. $\frac{x}{10} = \frac{1}{1}$ and $\frac{y}{15} = \frac{1}{1}$

i.e. x = 10 and y = 15

Hence, Suhrita received ten Rs.50 notes and fifteen Rs.100 rupee notes.