

ASSIGNMENT -1

Write an algorithm and draw the flowchart for the following problem statements

Q1. Find a student average mark given mark1 and mark2.

Algorithm :

Step1 – Start

Step2 – Declare variable mark1, mark2 and avg

Step3 – Read variable mark1 and mark2

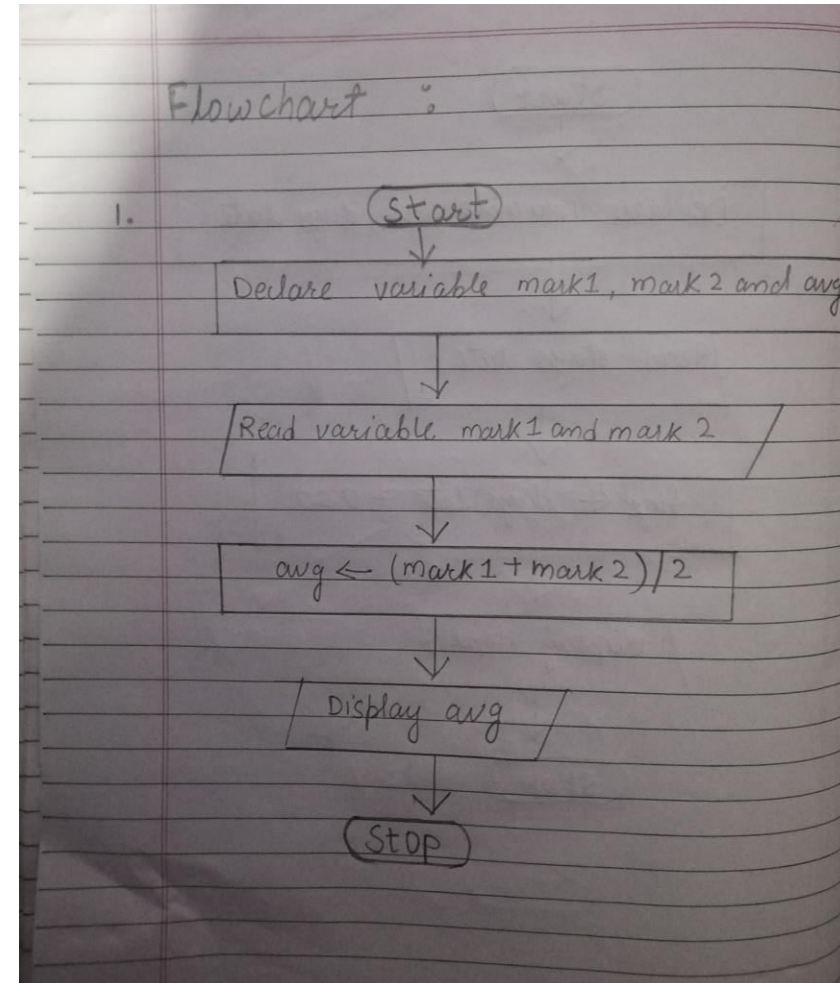
Step4 – Add mark1 and mark2 and assign the value in avg

$$\text{avg} \leftarrow (\text{mark1} + \text{mark2}) / 2$$

Step5 – Display avg

Step6 – Stop

Flowchart



Q2. Calculate the total fine charged by library for late-return book .The charge is 0.20 INR for 1day.

Algorithm :

Step1 – Start

Step2 – Declare variable fine,days late.

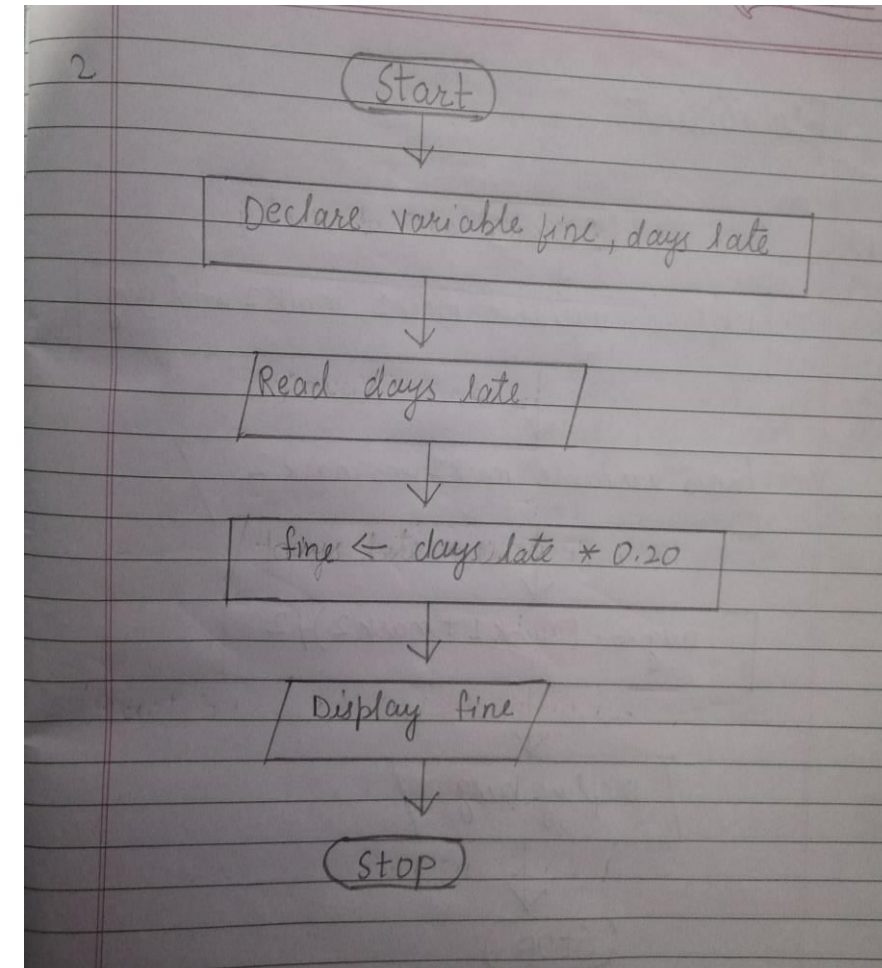
Step3 – Read days late

Step4 – $(\text{days late} \times 0.20)$ and assign the value in fine

Step5 – Display fine

Step6 – Stop

Flowchart



Q3. You had bought a nice shirt which cost Rs.29.90 with 15% discount.
Count the net price for the shirt.

Algorithm :

Step1 – Start

Step2 – Declare variable cost, discounted cost, and net price

Step3 – Read variable cost, discounted cost

Step4 – Multiply $0.15 * \text{cost}$ and assign the value in discounted cost

Discounted cost $\leftarrow 0.15 * 29.90 = 4.485$

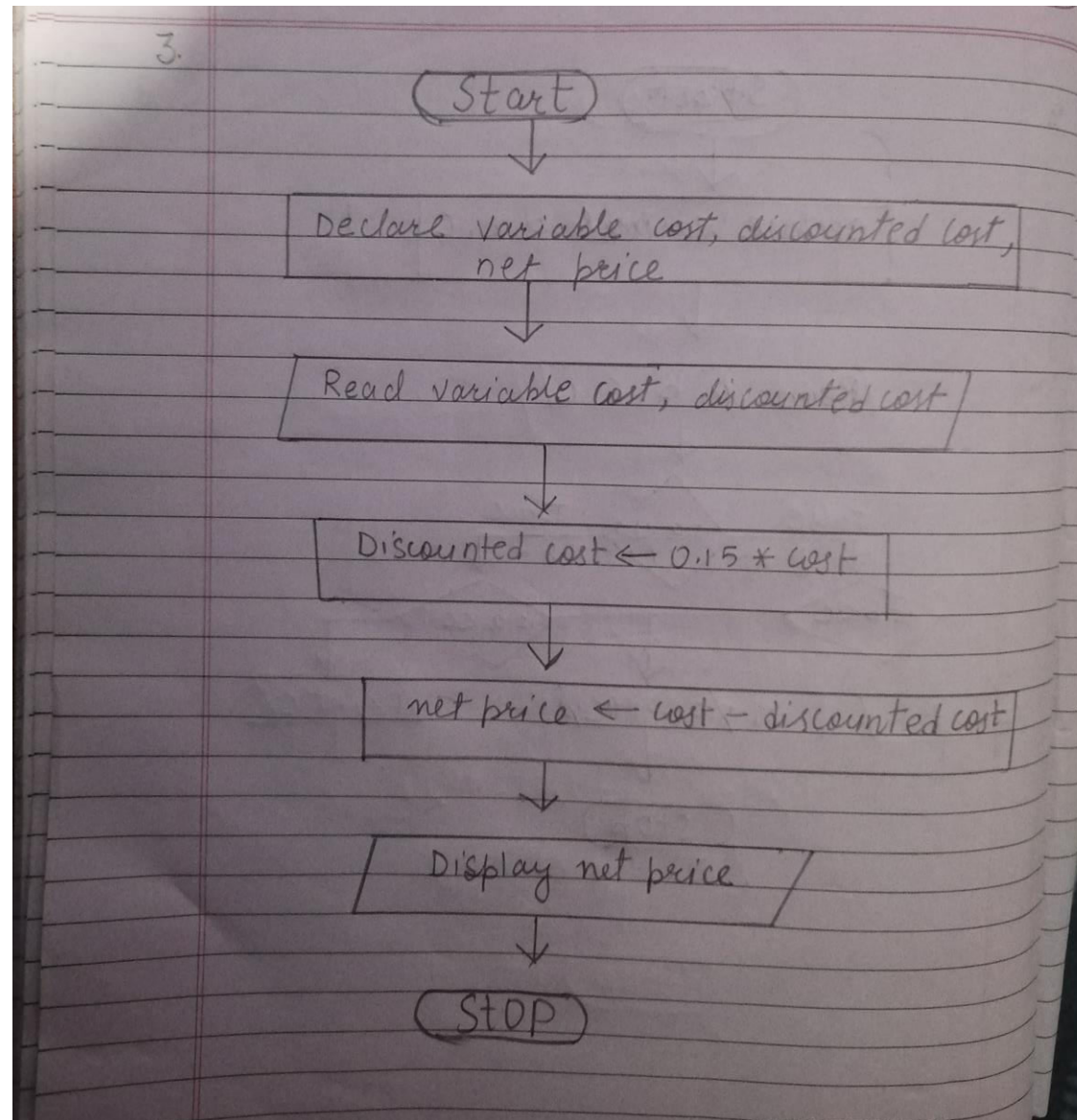
Step4 – Subtract cost from discounted cost and assign the value in net price

net price $\leftarrow \text{cost} - \text{discounted cost}$

Step5 – Display net price

Step6 – Stop

FLOWCHART



Q4. Find the smallest number among three different numbers.

Algorithm :

Step1 –start

Step2 – Declare variable a ,b ,c

Step3 – Read variable a , b c

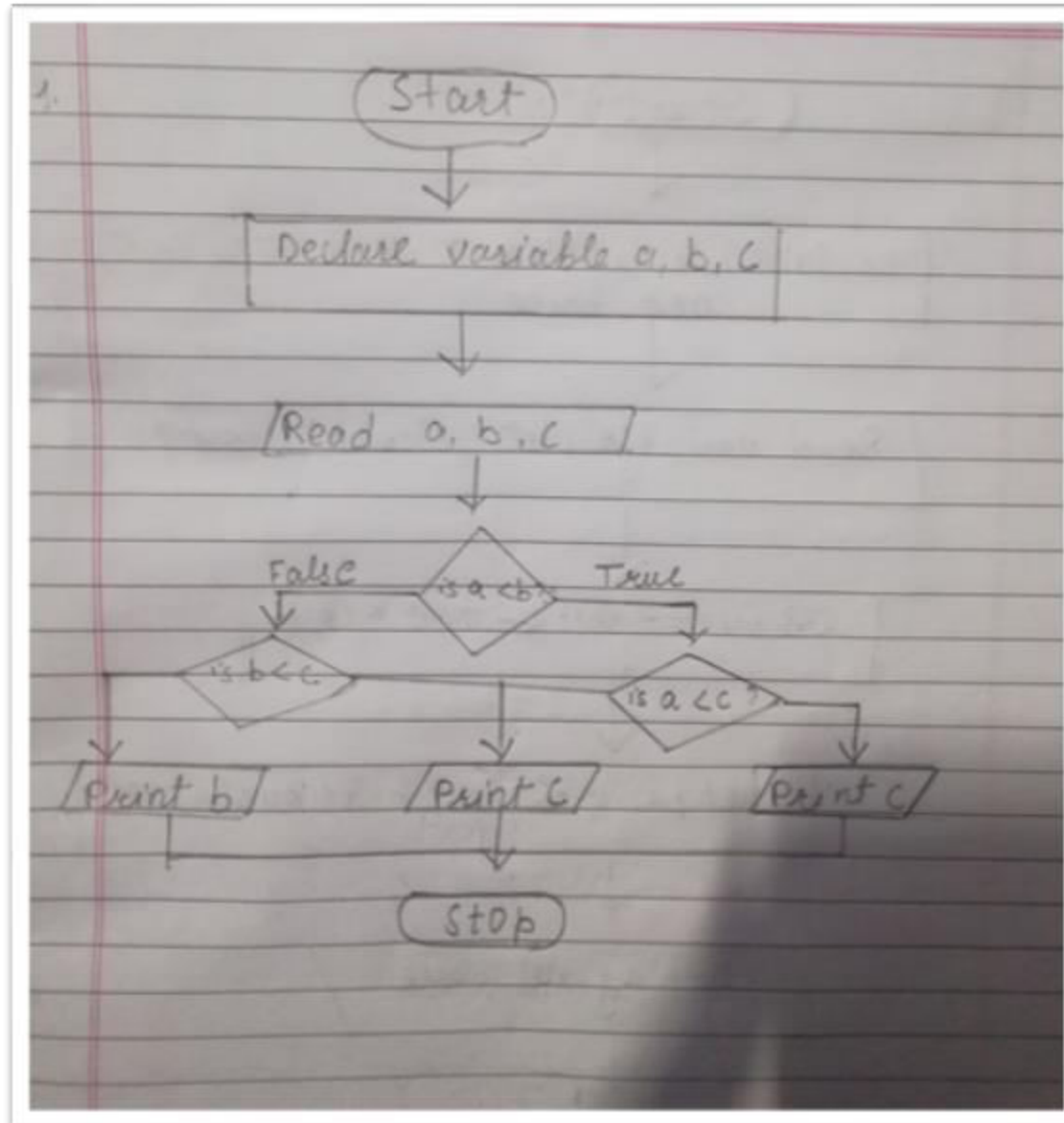
Step4 –Compare a with b and c. If $a < b$ and $a < c$ than 'a' is the smallest else c is the smallest.

Step5 –compare b with a and c. If $b < c$ than 'b' is the smallest else 'c' is the smallest.

Step6 –Display the smallest

Step7 –Stop

FLOWCHART



Q5. Find the root of a quadratic equation $ax^2+bx+c=0$.

Algorithm :

Step1 –start

Step2 –Declare variable a ,b ,c

Step3 –Read variable a ,b ,c

Step4 – $D \leftarrow \sqrt{b*b-4*a*c}$.

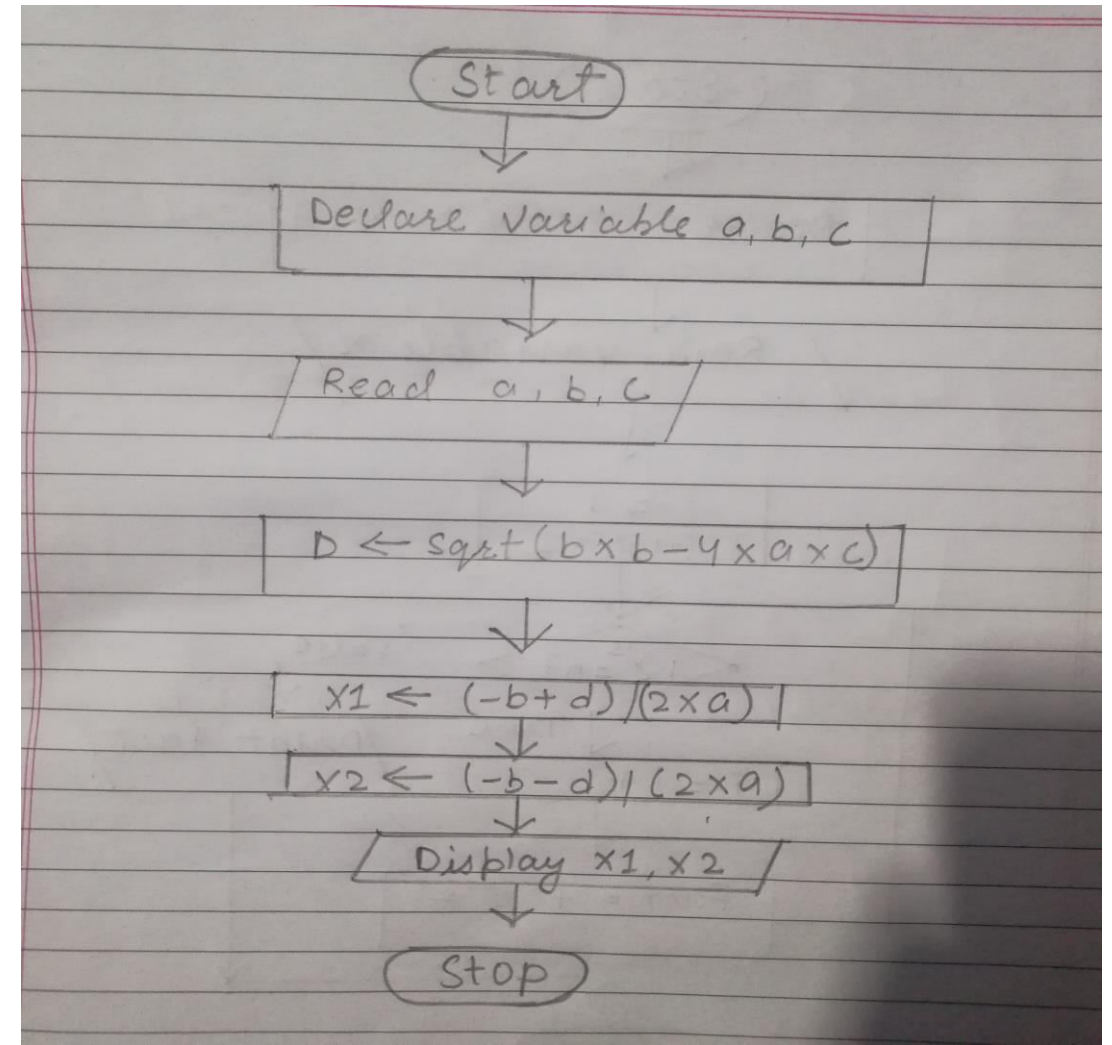
Step5 – $x1 \leftarrow (-b+d)/(2*a)$.

Step6 – $x2 \leftarrow (-b-d)/(2*a)$.

Step7 –display x1,x2

Step8 –stop

FLOWCHART



Q6. Find the factorial of a given number.

Algorithm :

Step1 – Start

Step2 – Declare variable fact=1, i=1 and n

Step3 – Read variable i and n

Step4 – Repeat step 4 through 6 until i=n

Step5 – fact=fact*i

Step6 – i=i+1

Step7 – Display fact

Step8 – Stop

FLOWCHART

