(1) Find a student average mark given mark1 and mark2.

Step1: Start
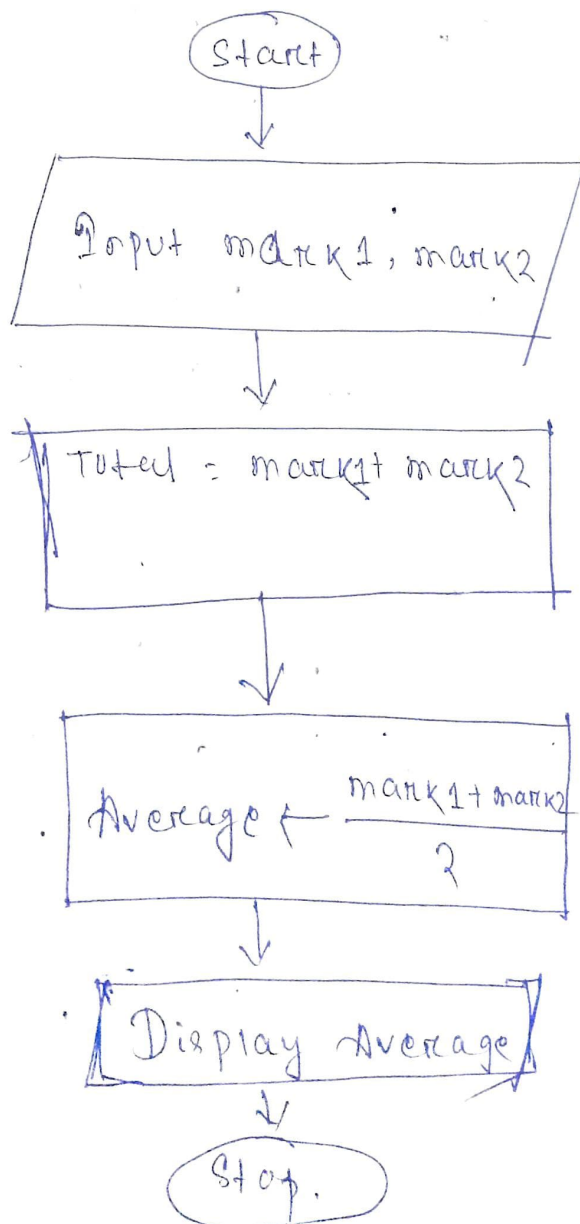
Step2: declare mark1, mark2 and average

Step3: Read values mark1 and mark2

Step4: add mark1 and mark2 and divide by 2 and assign the result to average.

average ← (mark1 and mark2) /2

Step5: display average.

Step6: Stop.

```
        ( Start )
            |
            v
   / Input mark1, mark2 /
            |
            v
   | Total = mark1 + mark2 |
            |
            v
   | Average ← (mark1 + mark2) / 2 |
            |
            v
   [ Display Average ]
            |
            v
        ( Stop )
```

2) calculate the total fine charged by library for late returns books. The charge is 0.20 INR for 1 day.

Step 1: Start
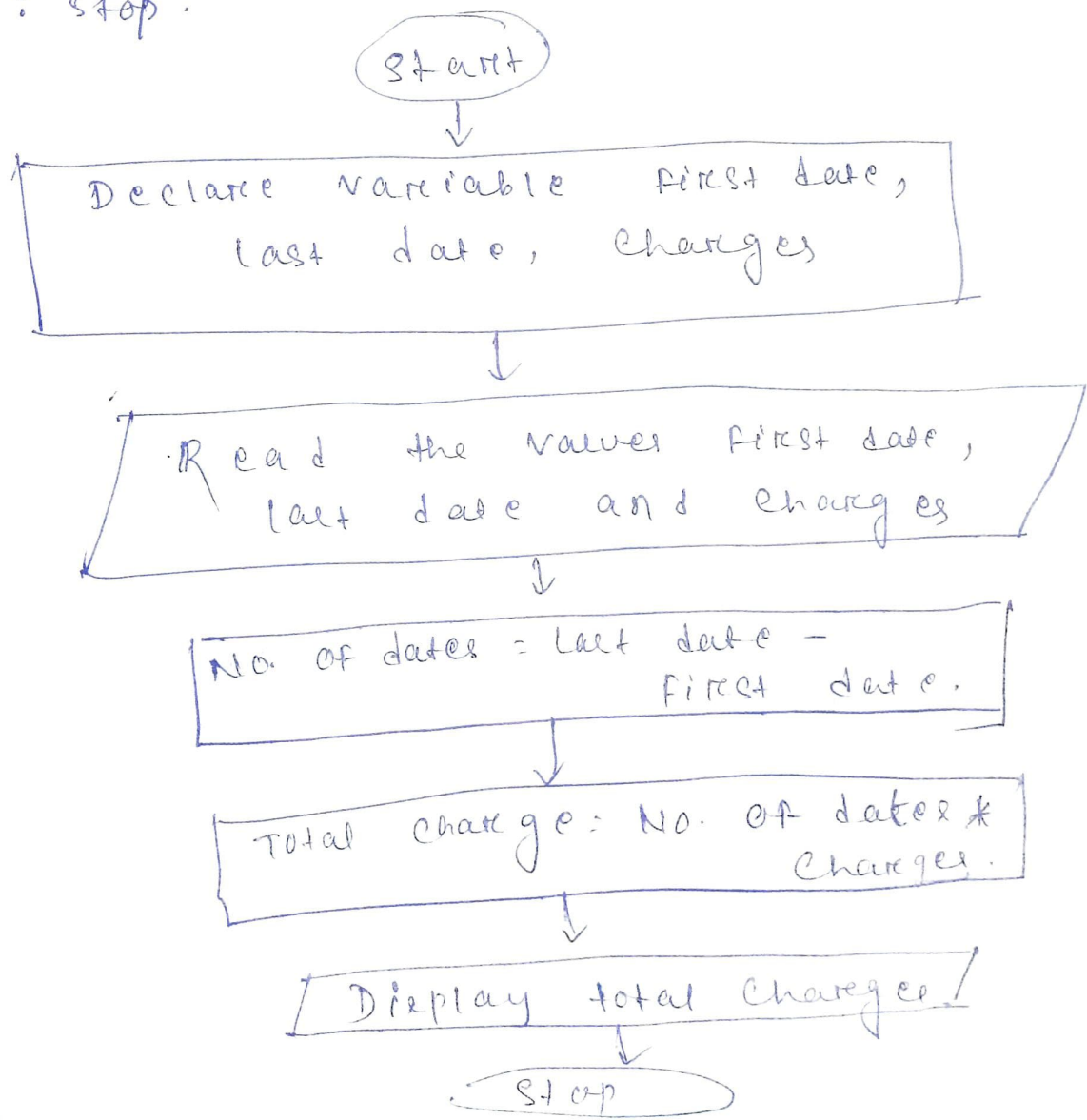Step 2: Declare variable first date, Last date, charges.
Step 3: Read the values first date, last date and charges.
Step 4: No. of dates = Last date - First date.
Step 5: Total charge = No. of dates * Charges.
Step 6: Display total charges.
Step 7: Stop.

```
          ( Start )
              |
              v
  +--------------------------------+
  | Declare variable first date,   |
  |   Last date, charges           |
  +--------------------------------+
              |
              v
  +--------------------------------+
  | Read the values first date,    |
  |   last date and charges        |
  +--------------------------------+
              |
              v
  +--------------------------------+
  | No. of dates = Last date -     |
  |          first date.           |
  +--------------------------------+
              |
              v
  +--------------------------------+
  | Total charge = No. of dates *  |
  |          charges.              |
  +--------------------------------+
              |
              v
  +--------------------------------+
  | Display total charges          |
  +--------------------------------+
              |
              v
          ( Stop )
```

(3) You had bought a nice shirt with RS 29.90 with 15% discount. Count the net price for the shirt.

Step 1: Start
Step 2: Declare variable cp, dis and Net price
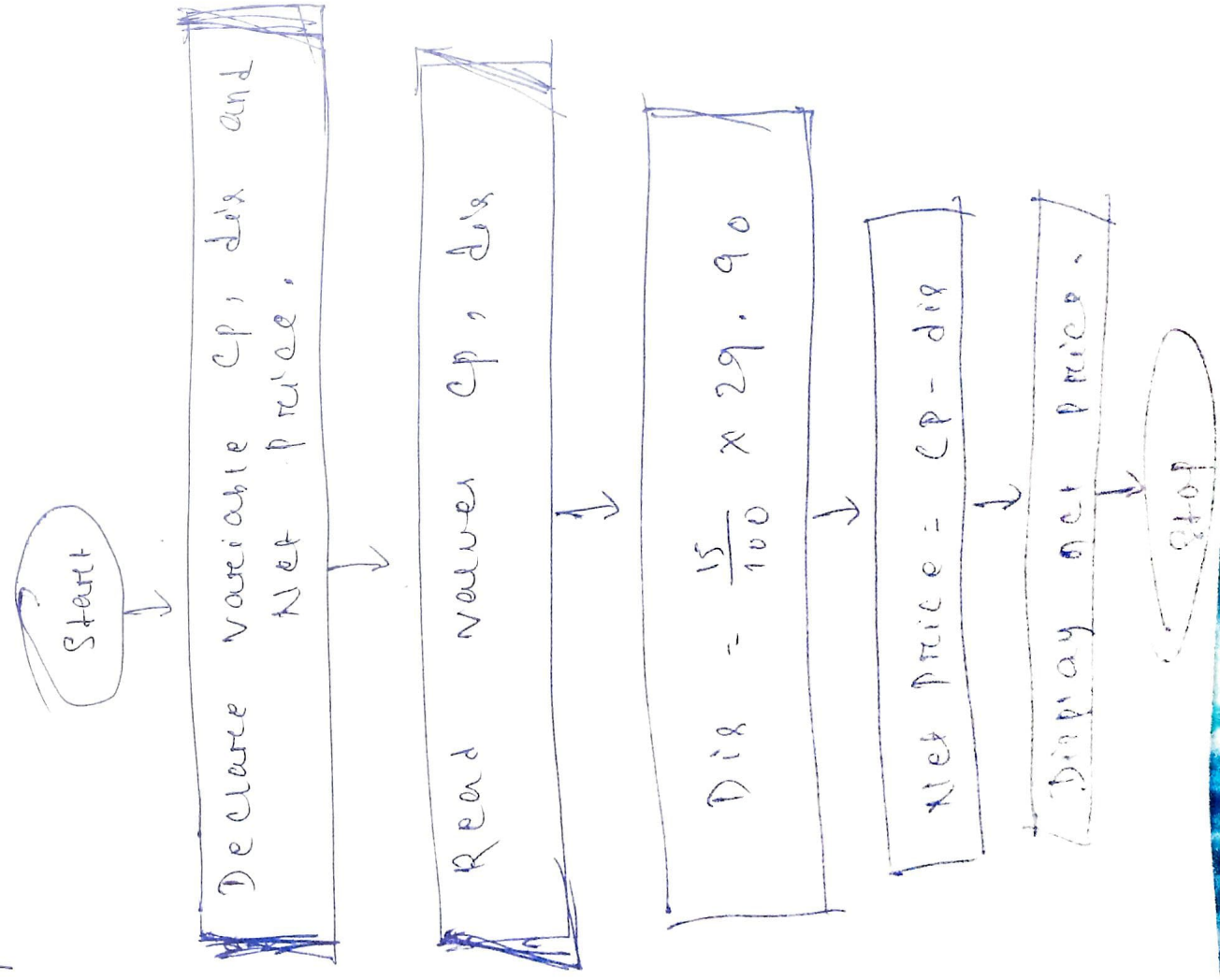Step 3: Read values cp, dis
Step 4: Dis = $\frac{15}{100} \times 29.90$
Step 5: Net Price = cp - Dis.
Step 6: Display Net price.
Step 7: Stop.

$$\boxed{\text{Start}}$$
↓
| Declare variable cp, dis and Net price. |
↓
| Read values cp, dis |
↓
| Dis = $\frac{15}{100} \times 29.90$ |
↓
| Net Price = cp - dis |
↓
| Display net price. |
↓
$$\text{Stop}$$

(4) Find the Smallest number among 3 different
numbers.

Step 1: Start.

Step 2: Declare variables a, b and c

Step 3: Read variables a, b and c

Step 4: If a < b
    If a < c
    Display a is the smallest number.
    else.
    Display c is the smallest number.
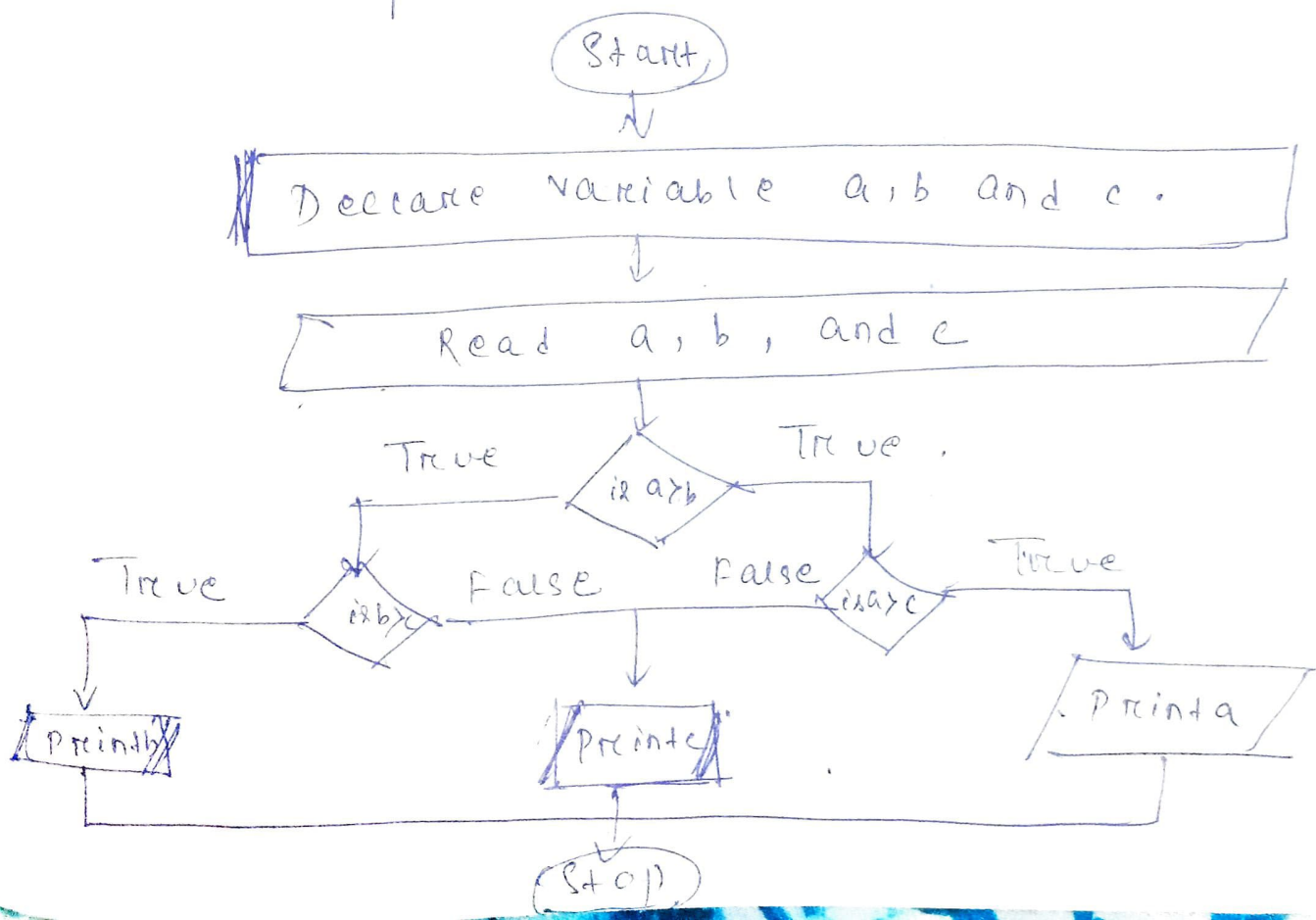   Else
    If b < c
    Display b is the smallest number.
    else
    Display c is is the smallest number.

Step 5: Stop.

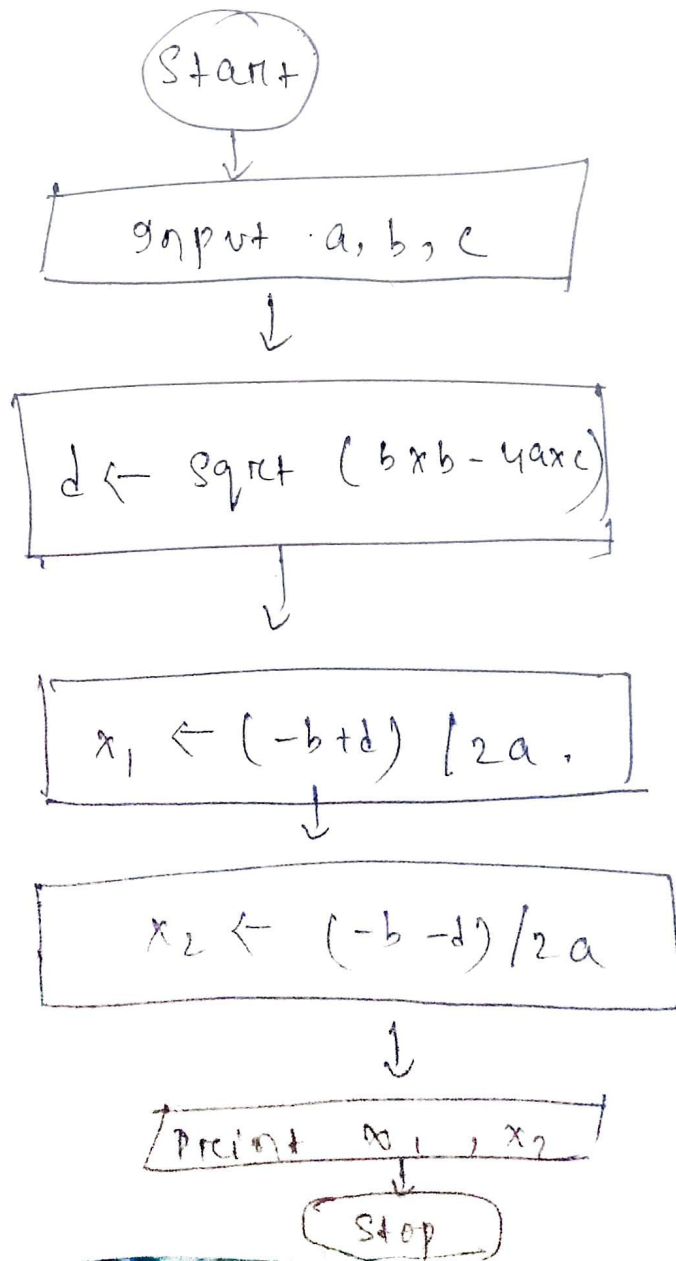(5) find the roots of a quadratic eq^n $ax^2 + bx + c$...

→ Step 1 : input a, b, c

Step 2 : $d \leftarrow$ sqrt $(b \times b - 4 \times a \times c)$

Step 3 : $x_1 \leftarrow (-b + d) / 2a$.

Step 4 : $x_2 \leftarrow (-b - d)/2a$.

Step 5 : print x_1, x_2

Start

input · a, b, c

$d \leftarrow$ sqrt $(b \times b - 4axc)$

$x_1 \leftarrow (-b+d) / 2a$.

$x_2 \leftarrow (-b-d)/2a$

print x_1, x_2

Stop

find the factorial of a given number.

Step 1 : Start.

Step 2 : Read n

Step 3 : Initialize counter variable i to 1 and
fact to 1

~~Start~~

Step 4 : If i <= n go to step 5 otherwise go to
Step 7.

Step 5 : Calculate fact = fact * i

Step 6 : Increment counter variable i and
go to Step 4

Step 7 : Write fact.

Step 8 : Stop.

```
        ( Start )
            |
            v
      / Read n /
            |
            v
      | i = 1      |
      | Fact = 1   |
            |
            v
        < i <= n >
            |
          true.
            |
            v
      | Fact = Fact* |
            |
            v
      | i = i + 1 |
            |
            v
      / write fact /
            |
            v
        ( Stop )
```