ANSWER OF ASSIGNMENT 1 – 21.12.2020

SUBJECT-PROGRAMMING AND DATA STRUCTURE USING C (PDSC)

LECTURE-M. Thangavel

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

ALGORITHM

STEP 1: Start.

STEP 2: Declare variables mark1, mark2 and Average.

STEP 3: Read mark1 and mark2.

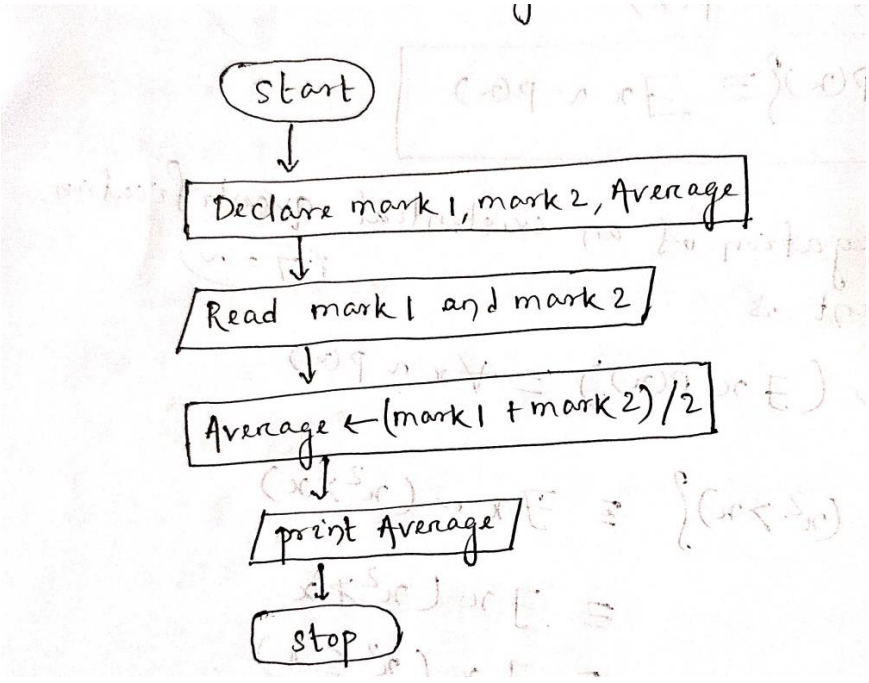
STEP 4: Add mark1 and mark2, then divide them by 2 and assign the value to avg.

Average ← (mark1+mark2)/2

STEP 5: Display Average.

STEP 6: Stop.

FLOW CHART



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

ALGORITHM

STEP 1: Start.

STEP 2: Declare Rate per day, No.of days, charge and Rate per day=0.20INR

STEP 3: Read Rate per day and No.of days

STEP 4: Multiply Rate per day with No.of days and assign it to charge

charge ← No. of days* 0.20

STEP 5: Display charge

STEP 6: Stop.

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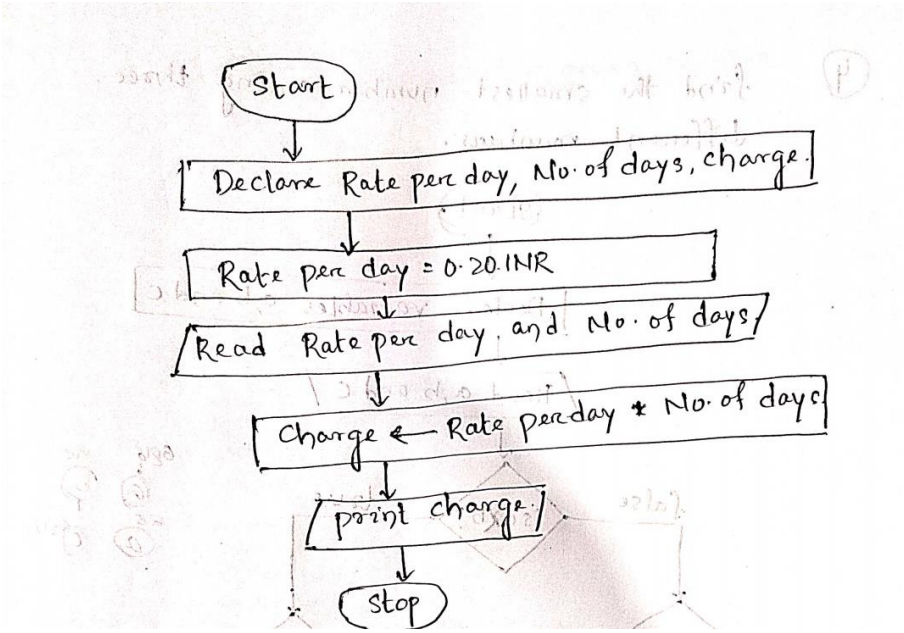

3. You had bought a nice shirt which cost Rs.29.90 with15% discount. Count the nett price for the shirt.

ALGORITHM

STEP 1: Start.

STEP 2: Declare variables cost, discount, discount cost, nett price and initialize cost= 29.90 and discount= 15%

STEP 3: Multiply cost with discount and assign the value to discount cost.

Discount cost ← cost * discount

STEP 4: Subtract discount cost from the cost and assign the value to Nett price.

Nett price ← cost – discount cost

STEP 5: Display Nett price.

STEP 6: Stop.

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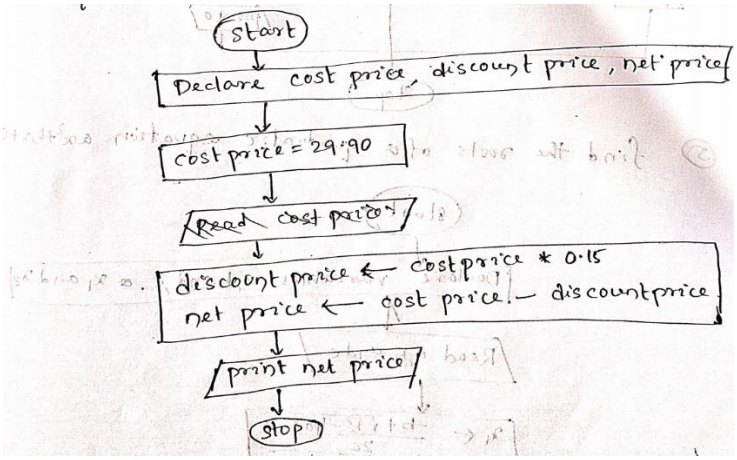

4. Find the smallest number among three different numbers.

ALGORITHM

STEP 1: Start.

STEP 2: Declare variables x, y and z.

STEP 3: Read x, y and z.

STEP 4: If x < y and x < z , then x is the smallest number.

STEP 5: Else if y < z , then y is the smallest number.

STEP 6: Else z is the smallest number.

STEP 7: Stop.

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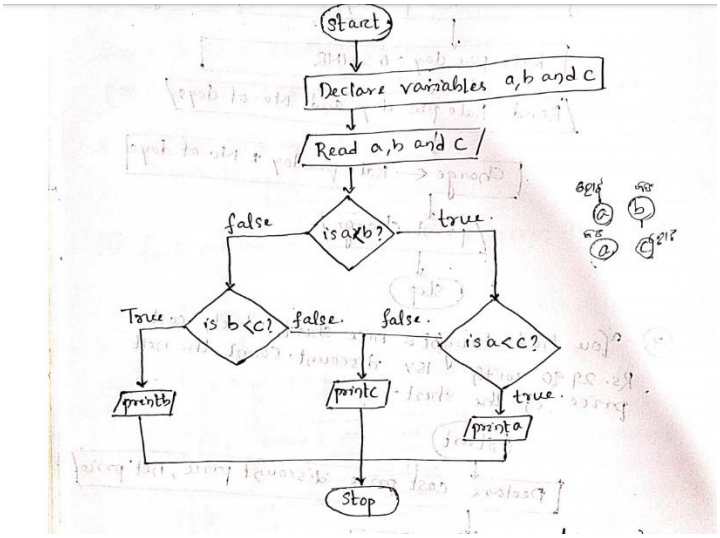

5. Find the Roots of a quadratic equation $ax^2 + bx + c = 0$.

ALGORITHM

STEP 1: Start.

STEP 2: Declare variables a, b, c ,x_1 and x_2

STEP 3: Read a, b and c.

STEP 4:$x_1 \leftarrow \frac{-b+\sqrt{b^2-4ac}}{2a}$

STEP 5:$x_2 \leftarrow \frac{-b-\sqrt{b^2-4ac}}{2a}$

STEP 6: display x_1 and x_2

STEP 9: Stop.

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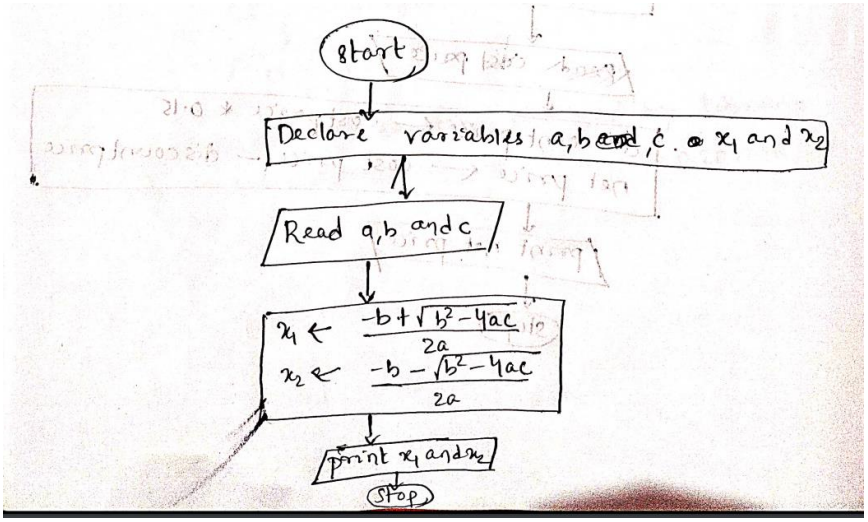

6. Find the factorial of a given number.

ALGORITHM

STEP 1: Start.

STEP 2: Declare variables num, fact and initialize fact = 1.

STEP 3: Read num.

STEP 4: fact ← fact * num

STEP 5: num ← num --

STEP 6: Repeat the above 2 steps until num =1.

STEP 7: Display fact.

STEP 8: Stop.

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