S A

UNIVERSITY

Subject

Programming and Data Structures using C

Assignment 1

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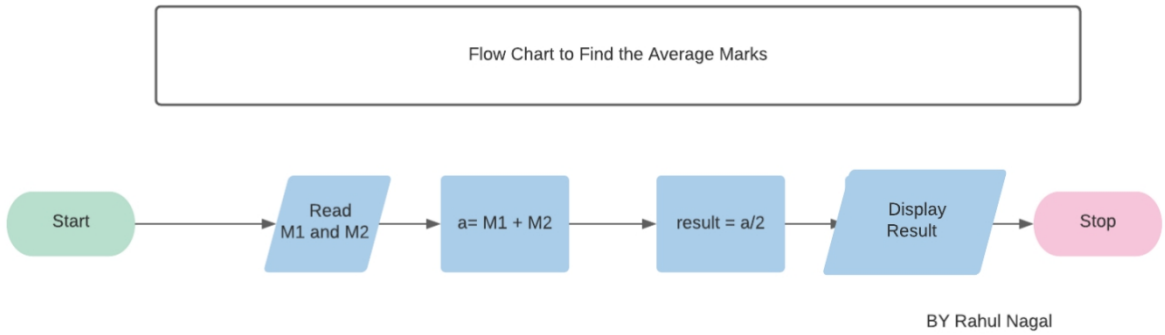
Q1. Find a student average mark given mark1 andmark2

Algorithm :-

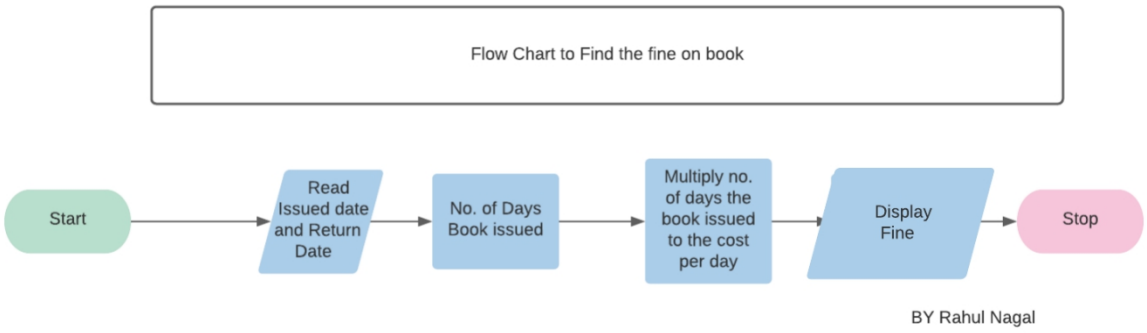
1. read input from the user (M1,M2)
2. use formula a = (M1+M2)/2
3. store the result in result var;
4. display;
5. END



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

Algorithm :-

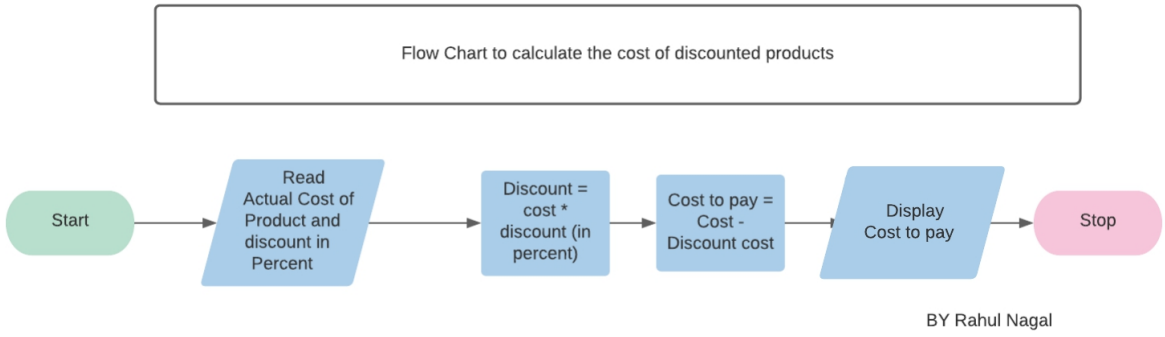
1. create variable b for book ,isssued date, return date(today);
2. to find days = issued date- return date
3. fine = days *0.2
4. display;
5. END



Q3. You had bought a nice shirt which cost Rs.29.90 with15% discount. Count the net price for the shirt.

Algorithm :-

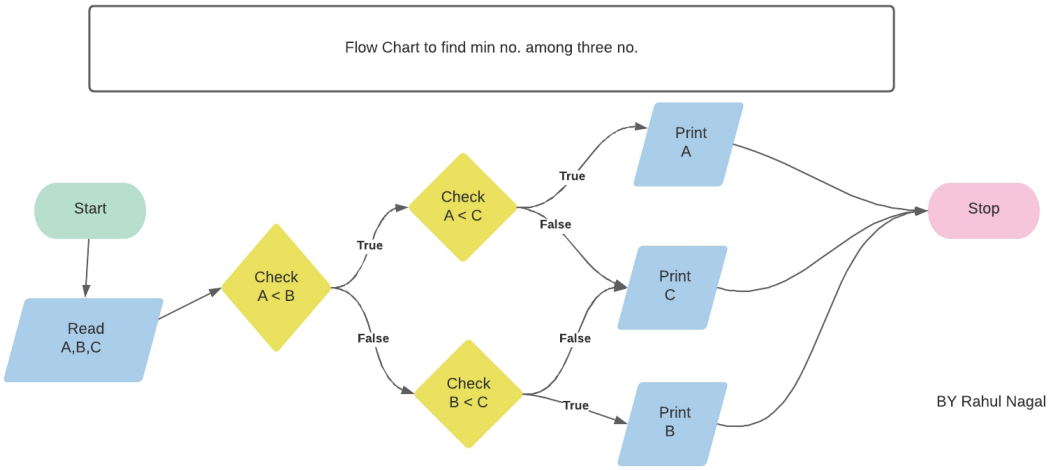
1. create variable(float) cost of shirt and discount;
2. calculate the discount cost on product by using formula Dc= cost * Discount%
3. Actual cost is Cost - Dc
4. store actual cost and display it
5. END



Q4. Find the smallest number among three different numbers

Algorithm :-

1. read three input a,b,c
2. if a<b store value of a in result else store b result
3. if result>c store value of c in result else display result
4. End

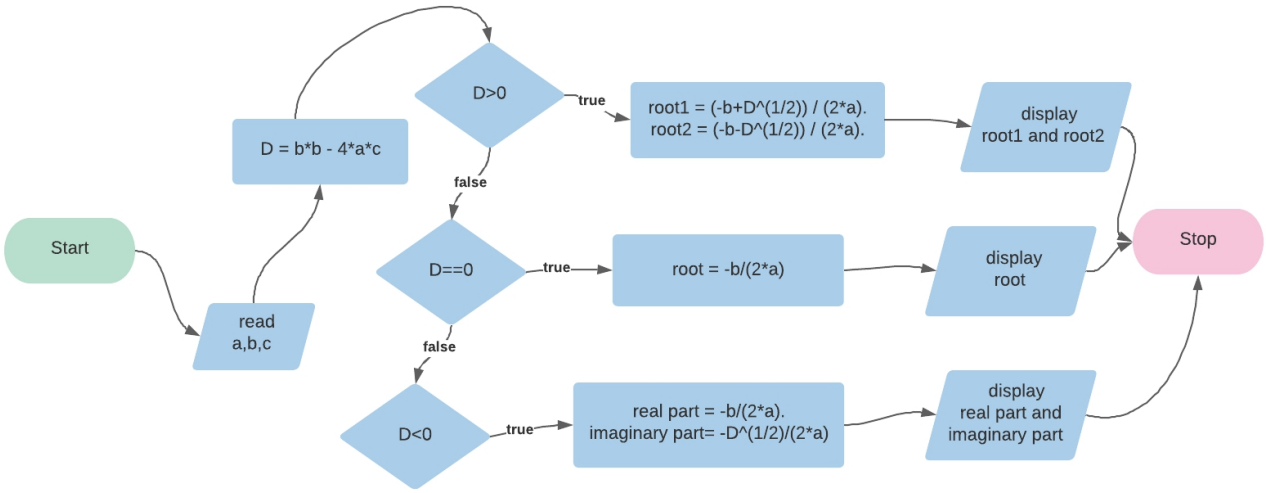


Q5. Find the Roots of a quadratic equation ax2+ bx + c = 0.

Algorithm :-

1.read a,b,c as coefficient of quadratic equation.
2.create variable d and store d=b*b-4*a*c.
3. check if d is greater then zero, the root are real and different
so root1=(-b + d^(1/2))/2*a.
root2=(-b - d^(1/2))/2*a.
4. check if d is equal to zero, the root are real and equal
so root = -b / (2*a).
5. check if discriminant is less than zero, the root are complex and different
so real part = -b/(2*a).
imaginary part = -d^(1/2)/ (2*a).
6. display the value root according to the value of d.
7. End

Flowchart to find the root of a quadratic equation ax2+ bx + c = 0.



Q6. Find the factorial of a given number

Algorithm :-

1. read a variable
2. run a loop 'a' time's and set the counter to 1 and result to 1.
3. run result=result*i command for 'a' time's
4. display result;
5. End

Flowchart to Find the factorial of a given number