

AIM :

To draw flowchart and write algorithm for the following problem.

ALGORITHM :

STEP 1 : Start

STEP 2 : Get the number of students (N)

STEP 3 : Assign $i = 0$

STEP 4 : Check for the condition $i < N$

4.1 : If true, Get Name, Roll Number and Marks m_1, m_2, m_3, m_4, m_5

4.2 : Calculate $Total = m_1 + m_2 + m_3 + m_4 + m_5$ and $Average = Total / 5$

4.3 : Display Name and Roll Number

4.4 : Check for condition $avg \geq 30$ and $avg < 50$

4.4.1 : If true, Display the message "Your grade is C" and increase i value by 1

4.5 : Check for condition $avg > 50$ and $avg < 80$

4.5.1 : If true, Display the message "Your grade is B" and increase i value by 1

4.6 : Check or the condition $avg > 80$ and $avg \leq 100$

4.6.1 : If true, Display the message "Your grade is A" and increase i value by 1

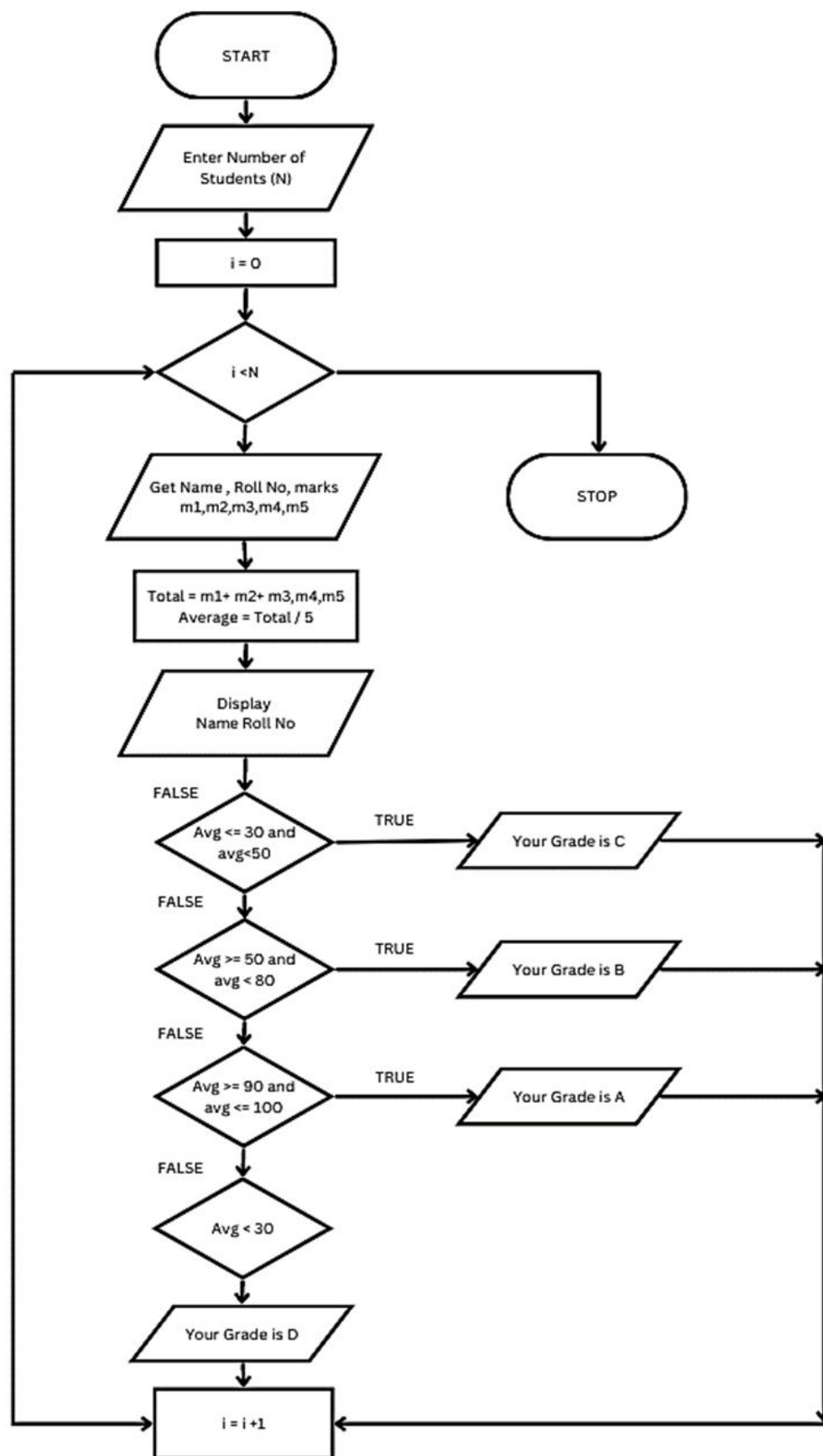
4.7 : Check for the condition $avg < 30$

4.7.1 : If true, Display the message "Your grade is D"

STEP 5 : If false, go to step 6

STEP 6 : Stop

FLOWCHART :



RESULT :

Thus, the algorithm and flowchart are written for the given problem.

Exp No : 1 - B
Date : 29-11-2022

WEIGHT OF A STEEL ROD

AIM :

To draw flowchart and write algorithm for the following problem.

ALGORITHM :

STEP 1 : Start

STEP 2 : Get the number of iron rod required (N)

STEP 3 : Initialize $i = 0$ and $Total = 0$

STEP 4 : Check if the value of i is less than n

4.1 : If true, get the diameter of the rod (D)

4.1.1 : Calculate the unit weight using formula $D^2 / 162 = W$

4.1.2 : Get the number of rod with diameter D

4.1.3 : Calculate the weight of the rod using formula $Number\ of\ Rod * D * Unit\ Weight$

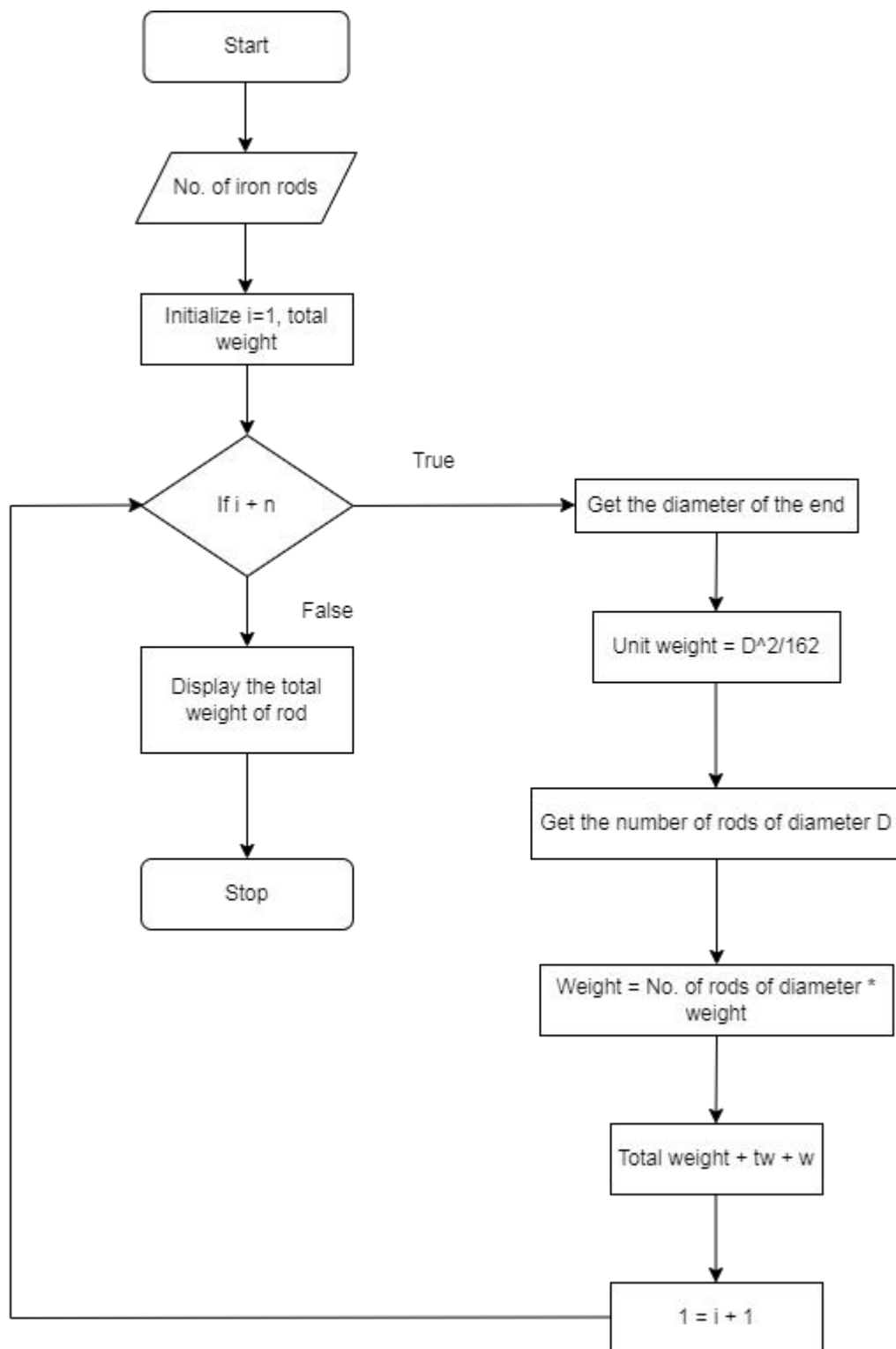
4.1.4 : Add the weight to Total

4.1.5 : Increment the value of i by 1

4.2 : If condition is false, Display total as total weight of the rod

STEP 5 : Stop

FLOWCHART :



RESULT :

Thus, the algorithm and flowchart are written for the given problem.

AIM :

To draw flowchart and write algorithm for the given problem.

ALGORITHM :

STEP 1 : Start

STEP 2 : Enter Current Unit (CU)

STEP 3 : Enter Old Unit (OU)

STEP 4 : Calculate $N = CU - OU$

STEP 5 : Check the condition $N \leq 100$

5.1 : If true, Calculate EC using formula $FC = 0, DC = 0, EC = 0$

5.2 : Calculate Total charges = $FC + DC + EC$

5.3 : Display amount needed to pay and go to Step 9

STEP 6 : Check for condition $N \leq 200$

6.1 : If true, Calculate EC using formula $FC = 20, DC = 18, EC = (N-100) * 1.5$

6.2 : Calculate the Total charges = $FC + DC + EC$

6.3 : Display amount needed to pay and go to Step 9

STEP 7 : Check for condition $N \leq 500$

7.1 : If true, Calculate EC using formula $FC = 73, DC = 48, EC = (N - 100) * 3.5$

7.2 : Calculate the Total charges = $FC + DC + EC$

7.3 : Display amount needed to pay and go to Step 9

STEP 8 : Check for condition $N > 500$

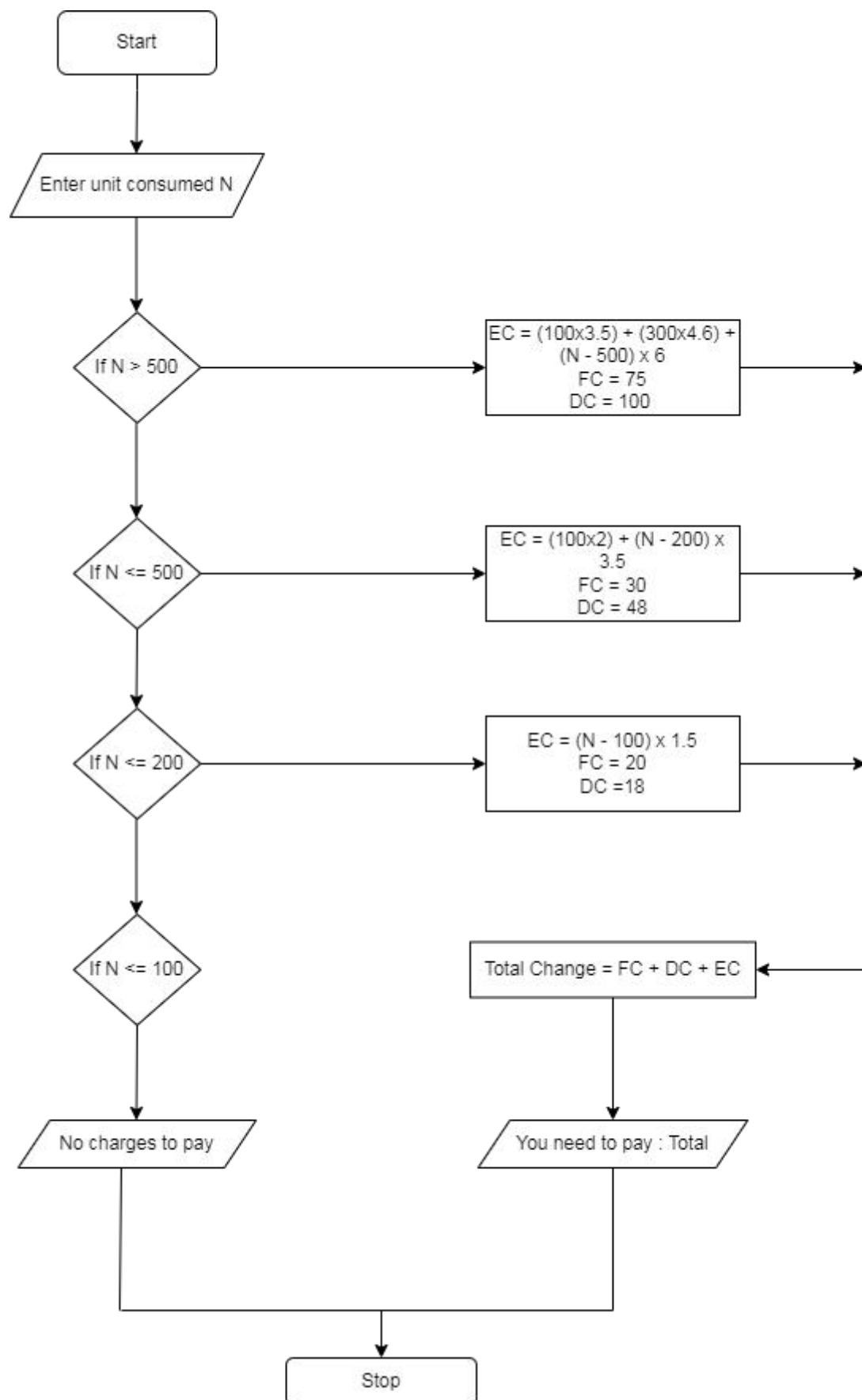
8.1 : If true, Calculate EC using formula $FC = 75, DC = 100, EC = (400*4.5) + (N - 500) * 6$

8.2 : Calculate Total charges = $FC + DC + EC$

8.3 : Display amount needed to pay and go to Step 9

STEP 9 : Stop

FLOWCHART :



RESULT :

Thus, the algorithm and flowchart are written for the given problem.

Exp No : 1 - D
Date : 29-11-2022

RETAIL SHOP BILLING

AIM :

To draw flowchart and write algorithm for the given problem.

ALGORITHM :

STEP 1 : Start

STEP 2 : Get the Bill number

STEP 3 : Get Customer Name and Phone Number

STEP 4 : Get the value of total number of items purchased

STEP 5 : Initialize the values for $i = 0$, $Total = 0$ and $Subtotal = 0$

STEP 6 : Check if condition $i \leq n$

6.1 : If true, get Item name, Price, Quantity and Discount

6.2 : Calculate the $Subtotal = Quantity * Price - Discount$

6.3 : Calculate the $Total = Total + Subtotal$

6.4 : Increment the value i and go to Step 6

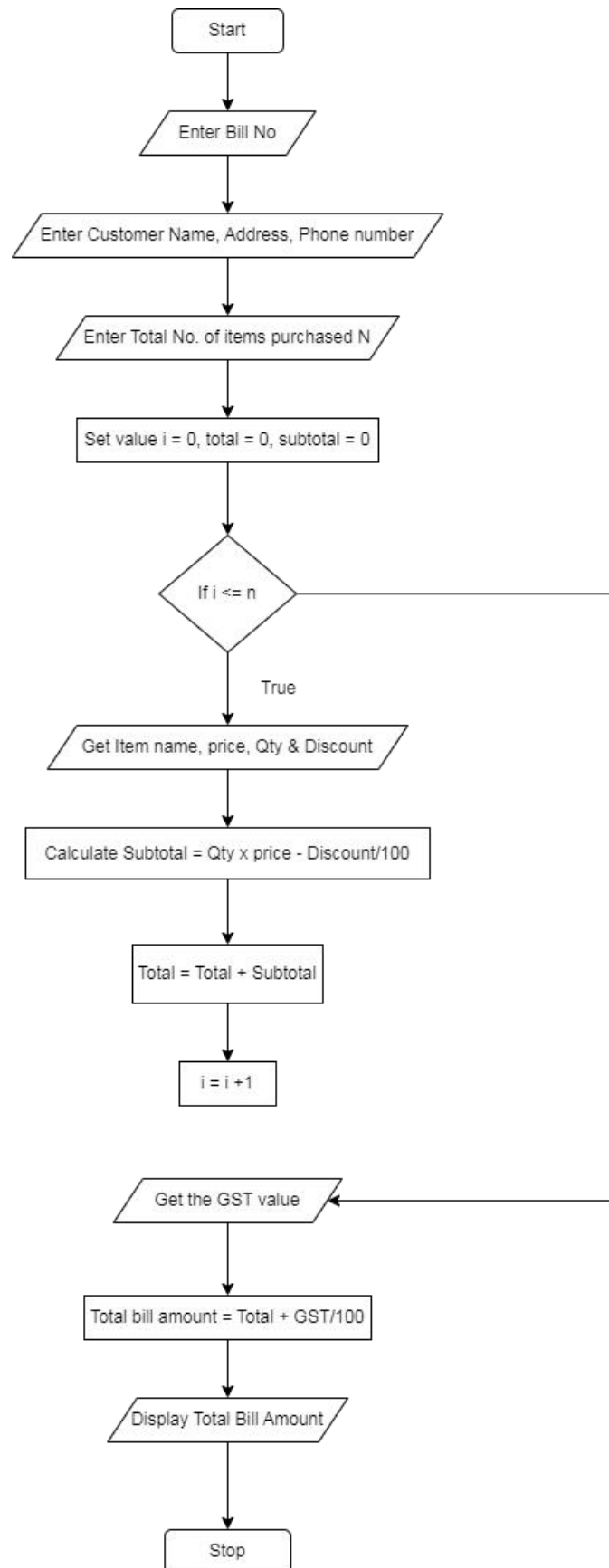
STEP 7 : If false, get the GST value

STEP 8 : Calculate $Total\ Bill\ Amount = Total + GST / 100$

STEP 9 : Display the Total Bill Amount

STEP 10 : Stop

FLOWCHART :



RESULT :

Thus, the algorithm and flowchart are written for the given problem.

Exp No : 1 - E
Date : 29-11-2022

WEIGHT OF A MOTOR BIKE

AIM :

To draw flowchart and write algorithm for the given problem.

ALGORITHM :

STEP 1 : Start

STEP 2 : Get gross vehicle weight Rating GVWR

STEP 3 : Get Dry weight (DW)

STEP 4 : Get Fuel weight (FW)

STEP 5 : Get Raider weight (RW)

STEP 6 : Get Passenger weight (PW)

STEP 7 : Calculate Total weight = $DW + FW + RW + PW$

STEP 8 : Get Load Value

STEP 9 : Calculate safe weight = $GVWR - \text{Load weight}$.

STEP 10 : Check the condition safe weight ≥ 0

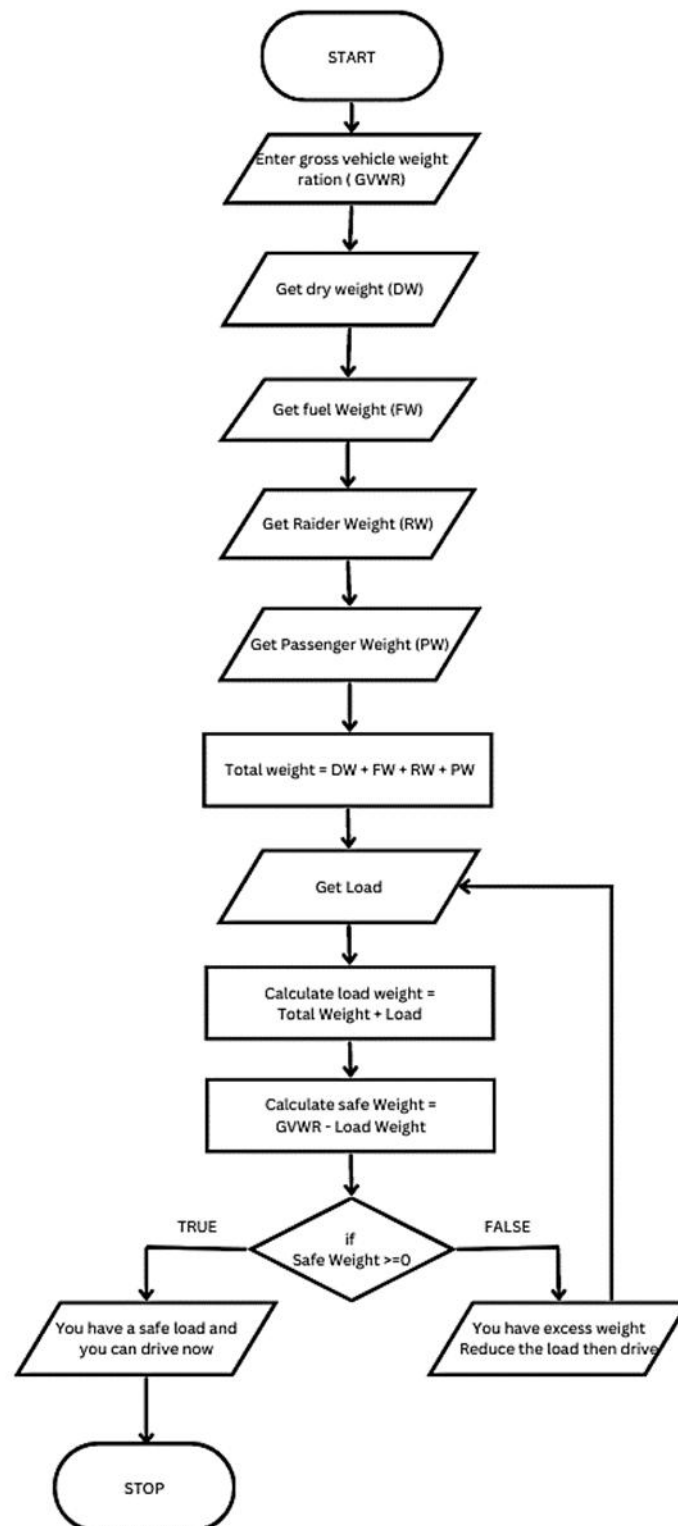
10.1 : If true, print the message "You have a safe load and you can drive" go to Step 11

10.2 : If false, print the message "Reduce the load and then drive"

10.2.1 : Go to Step 8

STEP 11 : Stop

FLOWCHART :



RESULT :

Thus, the algorithm and flowchart are written for the given problem.

Exp No : 1 - F
Date : 29-11-2022

ELECTRIC CURRENT IN 3 PHASE AC CIRCUIT

AIM :

To draw flowchart and write algorithm for the given problem.

ALGORITHM :

STEP 1: Start

STEP 2: Get value of Power Factor (PF)

STEP 3: Get value of Current (I)

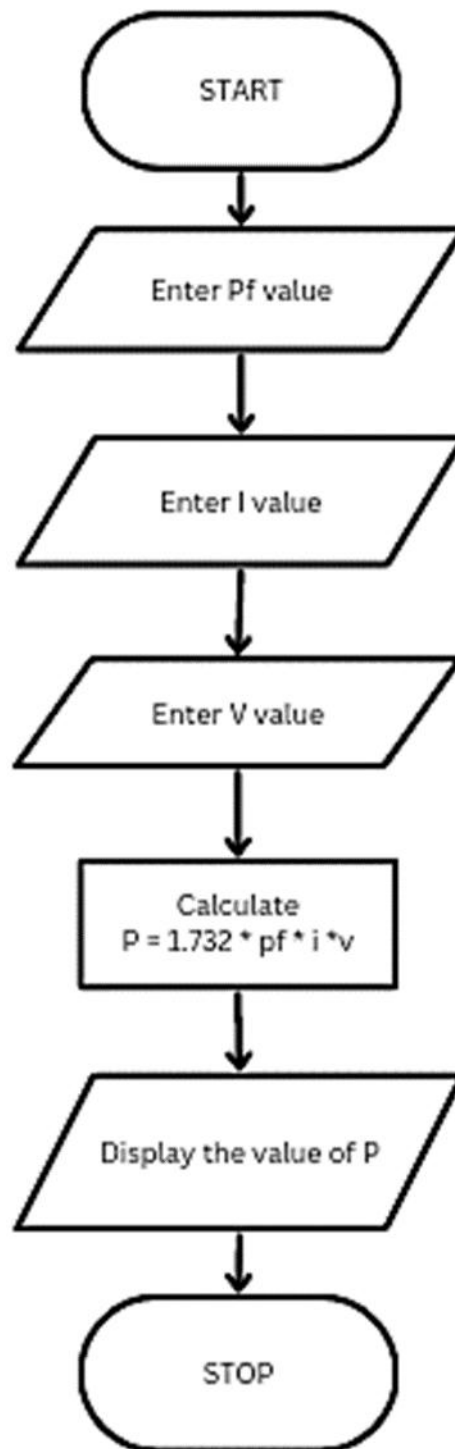
STEP 4: Get value of voltage (V)

STEP 5: Calculate P using the formula $P = \sqrt{3} * PF * I * V$

STEP 6: Display the value of P

STEP 7: Stop

FLOWCHART :



RESULT :

Thus, the algorithm and flowchart are written for the given problem.

AIM :

To draw flowchart and write algorithm for the given problem.

ALGORITHM :

STEP 1 : Start

STEP 2 : Get the value of x

STEP 3 : Initialize the values of $1 = 1$, $\text{sine} = 0$ and import math

STEP 4 : Get the value of N

STEP 5 : Check whether value of i less than N

5.1 : If condition is true, convert x to radian and adding it to y

5.1.1 : Let value of s be (-1) to the power i

5.1.2 : Now calculate the series using the formula

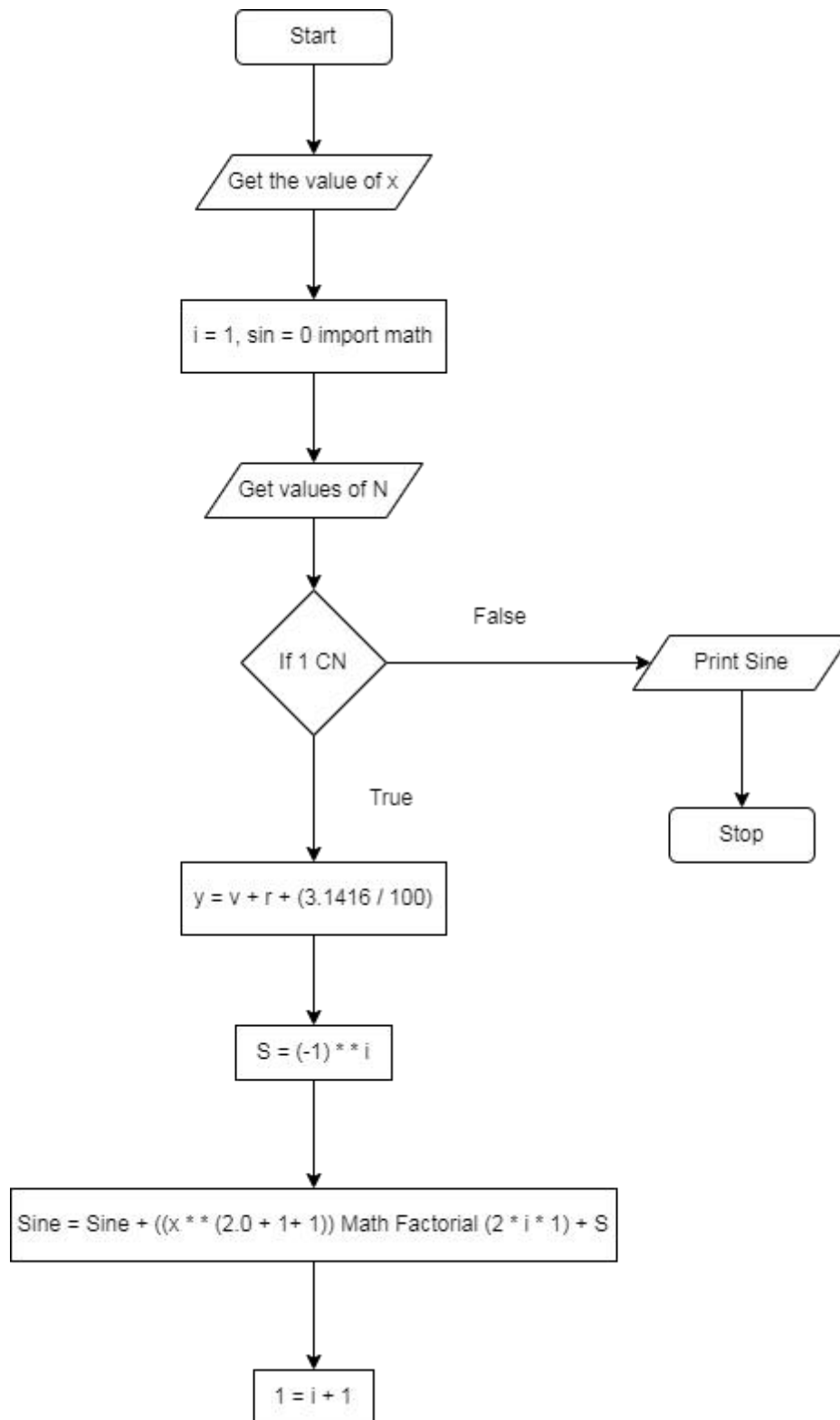
$$\text{Sine} = \text{sine} + (y * * 2 * i + 1) / \text{math factorial}(2i + 1) * S$$

5.1.3 : Increment value of i by 1

5.2 : If condition is false display sine

STEP 6 : Stop

FLOWCHART :



RESULT :

Thus, the algorithm and flowchart are written for the given problem.