DRAW FLOWCHART AND WRITE ALGORITHM FORTHEFOLLOWING PROBLEM.

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TOOLSUSED

- UsedDiagram.net todesign theflowchart
- Easy userinterface todrawthe flowchart

Exp No: 1- A **DRAW FLOWCHART AND WRITE ALGORITHM FOR**

Date: 29/ 11/22 **THE FOLLOWING PROBLEM**

STUDENT GRADE ANALYSIS

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.no and Marks m1, m2, m3, m4, m5.

4.2: Calculate Total = m1 + m2 + m3 + m4 + m5 and Average = Total / 5

4.3: Display Name and Roll Number.

4.4: Check for condition avg >= 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 "You grade is B" and increase i value by 1.

4.6: Check for the condition avg > 80 and avg ≤ 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, goto step 9

STEP 6: Stop.

PSEUDO CODE:

START

GET n

INITIALIZE i=0

IF i > n THEN

GET name, Roll no, m1, m2, m3, m4, m5

CALCULATE Total = m1+m2+m3+m4+m5

Average = Total /3

PRINT name , Roll no

IF avg >= 30 and avg < 50 THEN

PRINT Your grade is C

ELIF avg > 50 and avg < 80

PRINT Your grade is B

ELIF avg > 80 and avg ≤ 100

PRINT Your grade is A

ELIF avg < 30

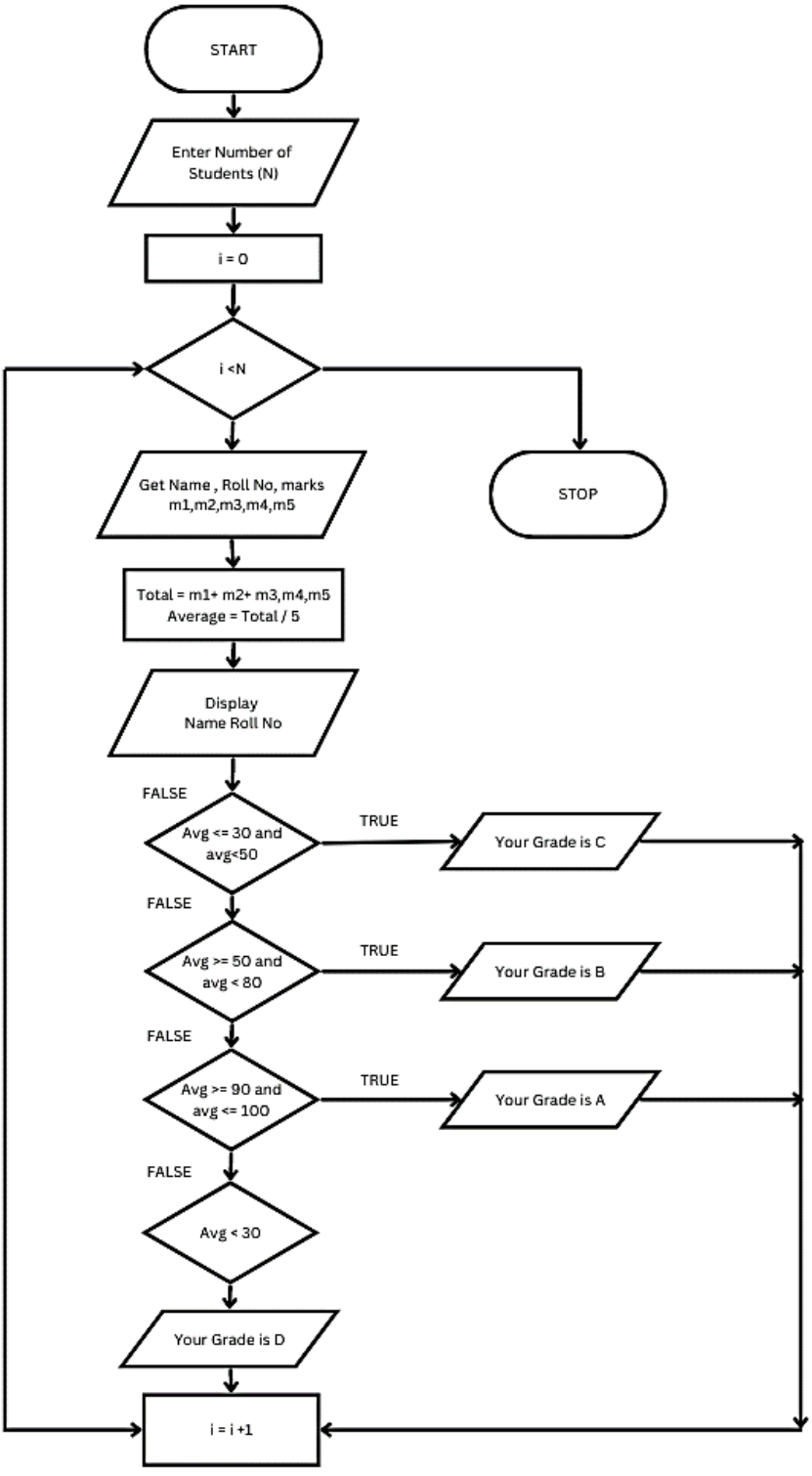
PRINT Your grade is D

ENDIF ENDIF

i=i+1

STOP

FLOWCHART:



RESULT:

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

Exp No: 1- B **DRAW FLOWCHART AND WRITE ALGORITHM FOR**

Date: 29/ 11/22 **THE FOLLOWING PROBLEM**

CALCULATING ELECTRIC BILL

AIM:

To draw flowchart and write algorithm for calculating the electric bill.

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 for the condition N<=100 If true.

5.1: Calculate E.C using formula. FC = 0, DC = 0, EC= 0

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

5.3: Display amount needed to pay and go to stop.

STEP 6: Check for condition N<=200 If true.

6.1: Calculate E.C using formula FC = 20 ,DC = 18, EC = (N – 100) * 1.5

6.2: Calculate theTotal charges = FC + DC + EC

6.3: Display amount needed to pay and go to stop.

STEP 7: Check condition N<=500 of take.

7.1: 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 need to pay and goto stop.

STEP 5: Check for the condition N>500 If true.

5.1: Calculate the E.C using FC=75, DC=100,EC = (400 * 4.5) + (N - 500) * 6

5.2: Calculate Total charges = FC + DC + EC

5.3: Display the amount need to pay and go to stop

STEP 7: Stop.

PSEUDO CODE:

START

GET CU

GET OU

CALCULATE N=CU-OU

IF N<=100 THEN

FC = 0, DC = 0, EC= 0

CALCULATE EC

ELIF N<=200 THEN

FC = 0, DC = 0, EC= 0

CALCULATE EC = (N – 100) * 1.5

ELIF N<=500 THEN

FC = 0, DC = 0, EC= 0

CALCULATE EC = (N - 100) * 3.5

ELIF N>500 THEN

FC = 0, DC = 0, EC= 0

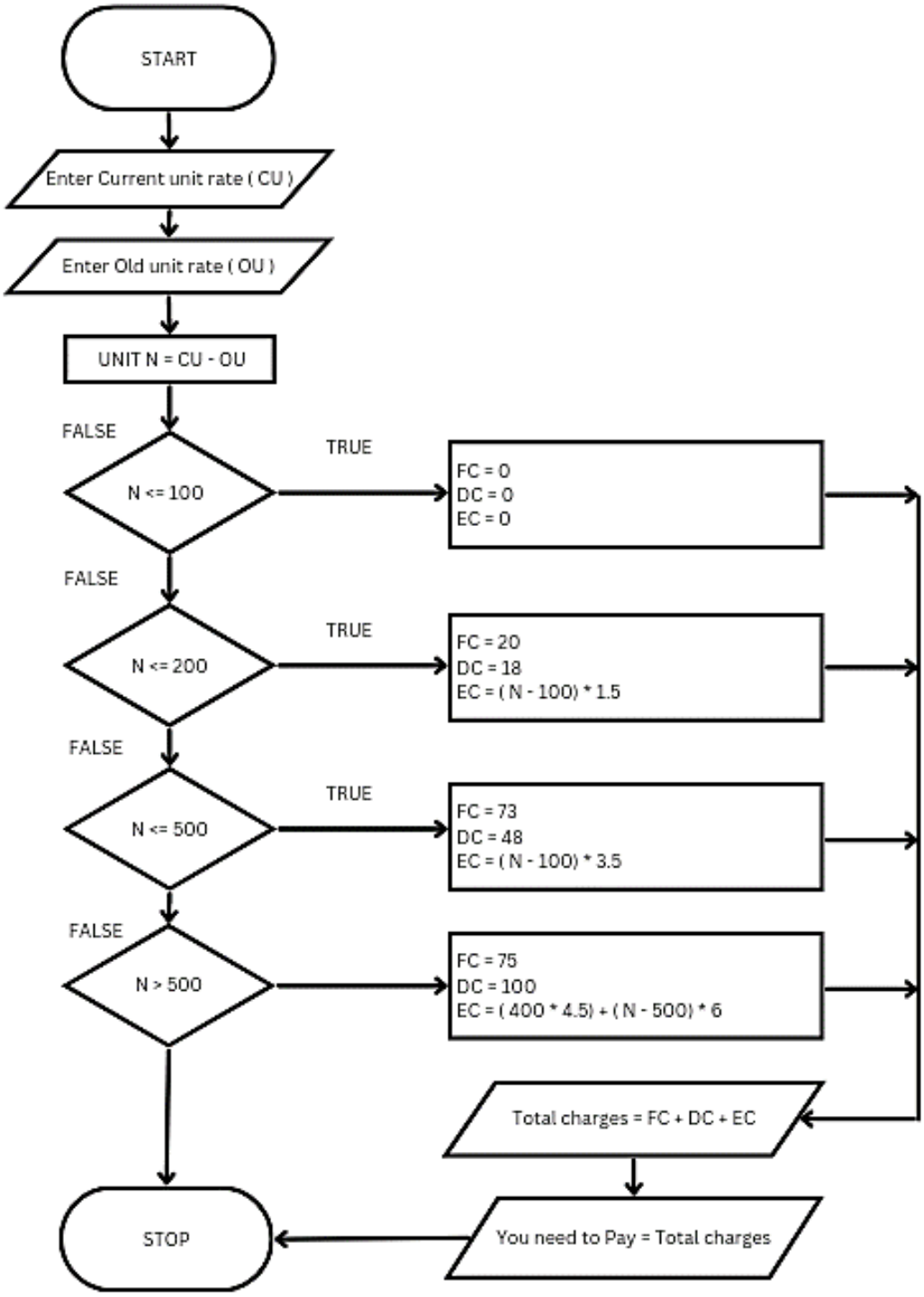
CALCULATE EC = (400 * 4.5) + (N - 500) * 6

ENDIF

PRINT Total Charges = FC + DC + EC

STOP

FLOWCHART:



RESULT:

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

Exp No: 1- C **DRAW FLOWCHART AND WRITE ALGORITHM FOR**

Date: 29/ 11/22 **THE FOLLOWING PROBLEM**

CALCULATE WEIGHT OF IRON ROD

AIM:

To draw flowchart and write algorithm for calculating the weight of a steel Rod.

ALGORITHM:

STEP 1: Start.

STEP 2: Get the number of Iron nods.

STEP 3: Initialize the value I and weight as 0.

STEP 4: Chock for the condition i = n.

4.1: of true, get the diameter of the rod.

4.2: Calculate the weight-unit-weight using the formula d*2 /162 = W

4.3: Calculate the weight using the formula.

No. of rods x weight - Tw

4.4: Calculate total weight = TW+W.

4.5: Increment the value of i by 1 goto step 4.

4.1: If false display the total weight.

STEP 5: Stop

PSEUDO CODE:

START

GET n

INITIATE i=0, Weight=0

IF i = n THEN

GET d

CALCULATE W = d*2 /162

    CALCULATE Tw = Tw + W i=i+1

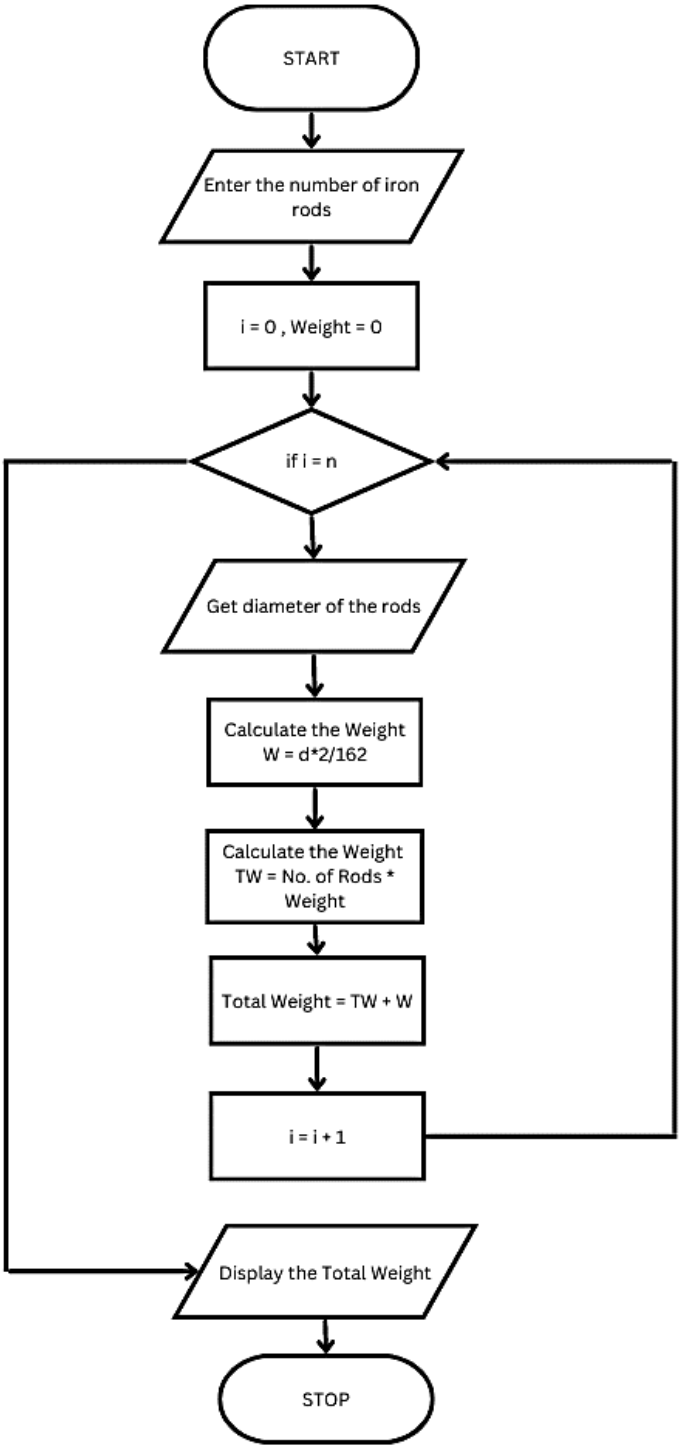
ELSE

PRINT Tw

ENDIF

STOP

FLOWCHART:



RESULT:

Thus, the algorithm and the flowchart is given for the problem.

Exp No: 1- D **DRAW FLOWCHART AND WRITE ALGORITHM FOR**

Date: 29/ 11/22 **THE FOLLOWING PROBLEM**

CALCULATE ELECTRIC CURRENT IN 3 PHASE A/C CIRCUIT

AIM:

To draw flowchart and write algorithm. to- calculate electrical current in 3 phase AC circuit.

ALGORITHM:

STEP 1: Start

STEP 2: Get value of pf (power factor)

STEP 3: Get value of Current (I).

STEP 4: Get value of voltage (V)

STEP 5: Calculate P using the formula P= √3*pf*I*V.

STEP 6: Display the value of P.

STEP 7: Stop

PSEUDO CODE:

START

GET Pf

GET I

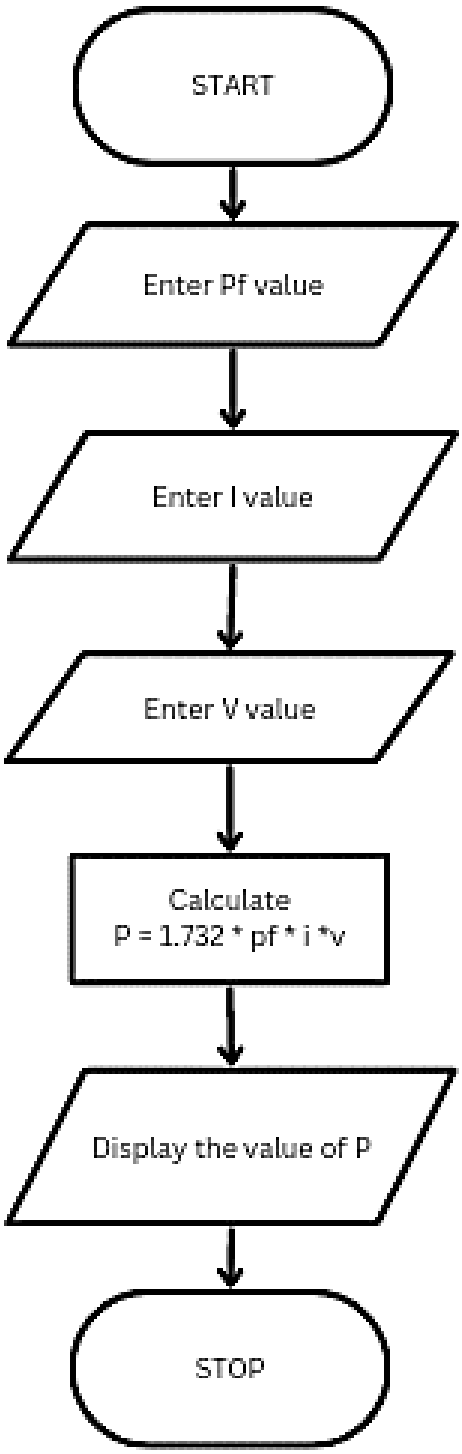
GET V

CALCULATE P = 1.732 * I * V

PRINT P

STOP

FLOWCHART:



RESULT:

Thus the flowchart and the algorithm is written for the given problem.

Exp No: 1- E **DRAW FLOWCHART AND WRITE ALGORITHM FOR**

Date: 29/ 11/22 **THE FOLLOWING PROBLEM**

RETAIL SHOP.

AIM:

To draw the flowchart and write the algorithm for the retail shop billing.

ALGORITHM:

STEP 1: Start

STEP 2: Get the Bill number.

STEP 3: Get costumer Customer name and phone number

STEP 4: Get the value of total No. of Items purchased.

STEP 5: Initialize the values for i =0, Total =0.

STEP 6: Check if condition i<=n.

6.1: If true, get Item name, Price, Count and the discount.

6.2: Calculate the Subtotal = Price * Count –Disc/100.

6.3: Add the value of subtotal to the total.

6.4: Increment the value of i and goto step 6.

STEP 7: IfFalse, get the GST value.

STEP 8: Calculate Total_Bill = Total+GST/100

STEP 9: Display Total_Bill

STEP 10: Stop.

PSEUDO CODE:

START

GET Bill Number

GET custoumer name , number

INITIALIZE i=0, Total=0, Net Amount=0, Gross=0
IF I<=n

GET Item Name, Price, Count, Discount

CALCULATE The Gross = Price * Count

CALCULATE The Disc = Gross * Discount%

CALCULATE The Subtotal = Gross-Disc

CALCULATE the Total = Total + Net Amount

i=i+1

ELSE

GET GST

CALCULATE GST AMOUNT = (GROSS * GST%) / 100.

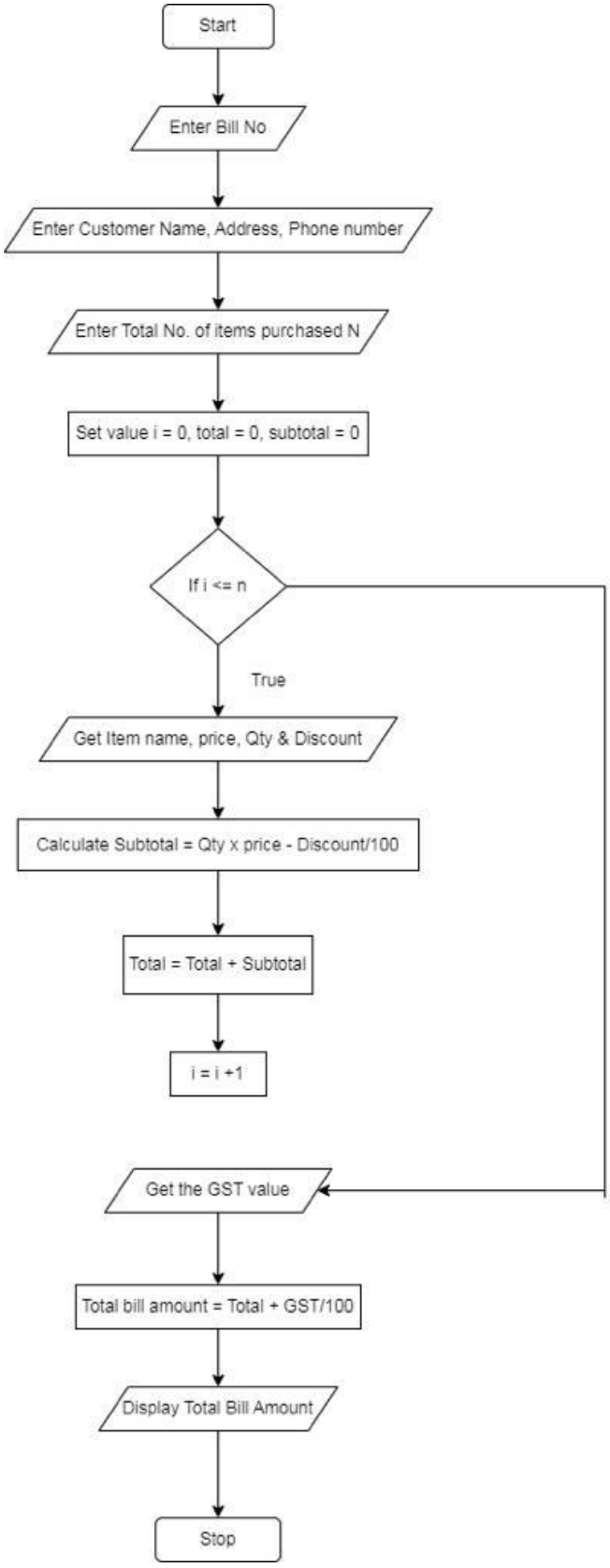
CALCULATE the BILL Price = Total + GST Amount

PRINT BILL Price

ENDIF

STOP

FLOWCHART:



RESULT:

Thus, the flowchart and the algorithm is written for the problem

Exp No: 1- F **DRAW FLOWCHART AND WRITE ALGORITHM FOR**

Date: 29/ 11/22 **THE FOLLOWING PROBLEM**

CALCULATE WEIGHT OF A MOTORBIKE

AIM:

To draw flowchart and write algorithm for calculating weight of a motorbike.

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.

STEP 9: Calculate safe weight. GVWR-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" goto stop.

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

10.2.1: GOTO step 8.

STEP 11: Stop.

PSEUDO CODE:

START

GET GVWR

GET DW

GET FW

GET RW

GET PW

CALCULATE Total Weight = DW + FW+ RW + PW

GET Load

CALCULATE Load Weight = Total Weight + Load

CALCULATE Safe Weight = GVWR = Load Weight

IF Safe Weight >= 0 Then

PRINT You have a safe load and you can drive

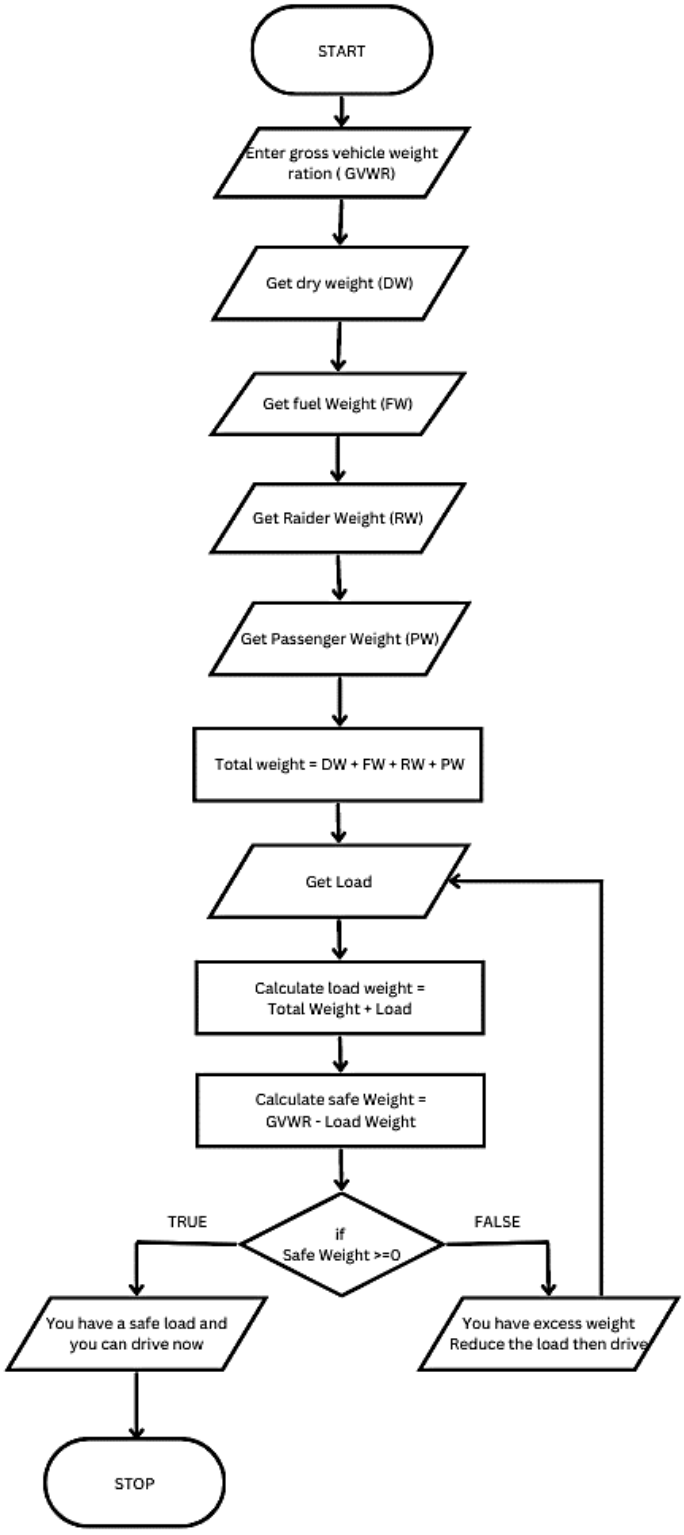
ELSE

PRINT You have excess weight, Reduce the load and then drive

ENDIF

STOP

FLOWCHART:



RESULT:

Thus, the flowchart and the algorithm is written for the problem.

Exp No: 1- G **DRAW FLOWCHART AND WRITE ALGORITHM FOR**

Date: 29/ 11/22 **THE FOLLOWING PROBLEM**

SINE SERIES.

AIM:

To draw flowchart and write algorithm for the sine series.

ALGORITHM:

STEP 1: Start.

STEP 2: Get the value of x.

STEP 3: Initialize the values of 1=1, sine =0 and import moth.

STEP 4: Get the value of N.

STEP 5: Check weather value do i less than N

5.1: If condition is true, convent a to radians 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.

Sine = sine + ((y**2* i +1))/ math factorial (21+4) S.

5.1.3: Increment value of i by 1.

5.2: If condition is false display sine.

STEP 6: Stop.

PSEUDO CODE:

START

GET x

INITIALIZE i=1,sine=0

IMPORT math

GET n

IF i < n

CALCULATE y = y + x (3.416 % 100)

ASSIGN s = (-1) ** i

CALCULATE Sine = sine + ((y**2* i +1))/ math factorial (2*i*1) S.

i=i+1

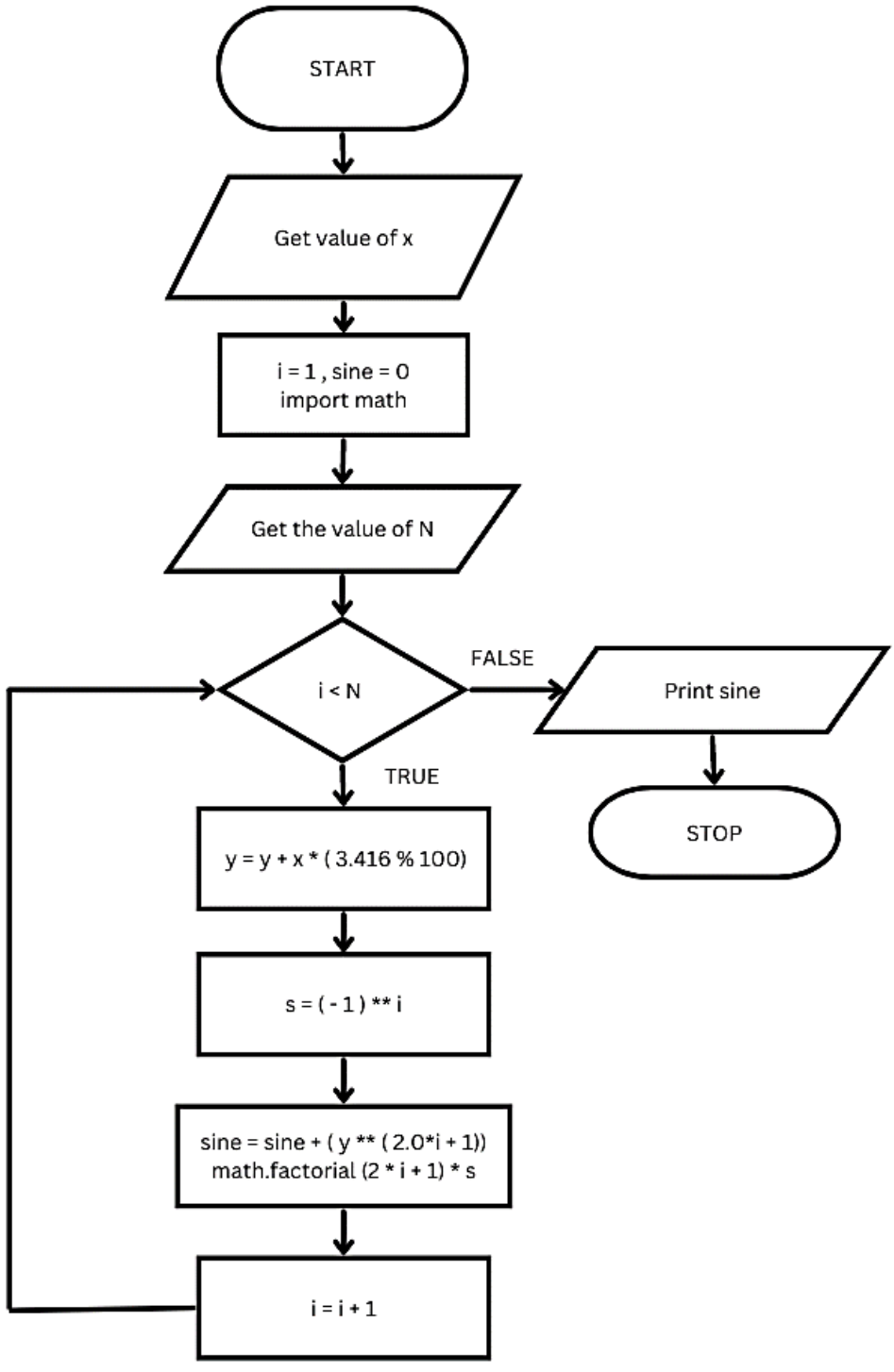
ELSE

PRINT Sine

ENDIF

STOP

FLOWCHART:

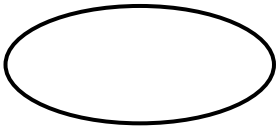
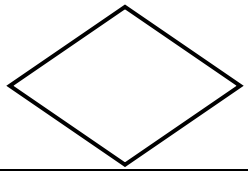
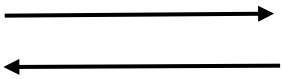
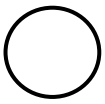


RESULT:

Thus, the flowchart and the algorithm is written for the problem

FLOWCHART:

- Flowchart A graphical representation of the logic for the problem solving.
- The purpose of the flowchart is making the logic of the program in a visual representation
- Flowcharts is a diagram made up of boxes, diamonds, and other shapes, connected by arrows.
- Each shape represents a step-in process and arrows show the order in which they occur.

	OVAL – TERMINAL SYMBOL
	Parallelogram - Input/ Output symbol
	Rectangle - Process symbol
	Diamond- Decision symbol
	Arrow lines - Flow lines
	To represent a function
	Circle – Connector

TOOLS USED TO DRAW FLOWCHART

1. **Smart Draw**
2. **Canva**
3. **Diagrams.net**
4. **Licidchart**
5. **Visme**
6. **Zenflowchart**
7. **Visual Paradiagram**
8. **Creatly**
9. **Google Draw**