Expt no: 1 a

CALCULATING ELECTRIC BILL

Aim:

To draw Flowcharts and write algorithm for calculating Electric Bill.

Algorithm:

Step 1: Start

Step 2: Enter this month unit, previous month unit.

Step 3: Obtain Unit= This month Unit - Previous month unit.

Step 4: Check Unit<=100, if true, No amount to pay else move to next Step 5.

4.1: Calculate amount, Total charges.

4.2: Display the amount (Tot. amount) and go to Step 8.

Step 5: Check Unit>100 & Unit<=200, if true, proceed 5.1 else go to Step 6.

5.1: Calculate amount, Total Charges.

5.2: Display the amount (Tot. amount) and go to Step 8.

Step 6: Check Unit>200 & Unit<=400, if true proceeded 6.1 else go to Step 7.

6.1: Calculate amount, Total Charges

6.2: Display Total Amount and go to Step 8

Step 7: Check Unit>400, if true Proceed 7.1 else go to Step 8.

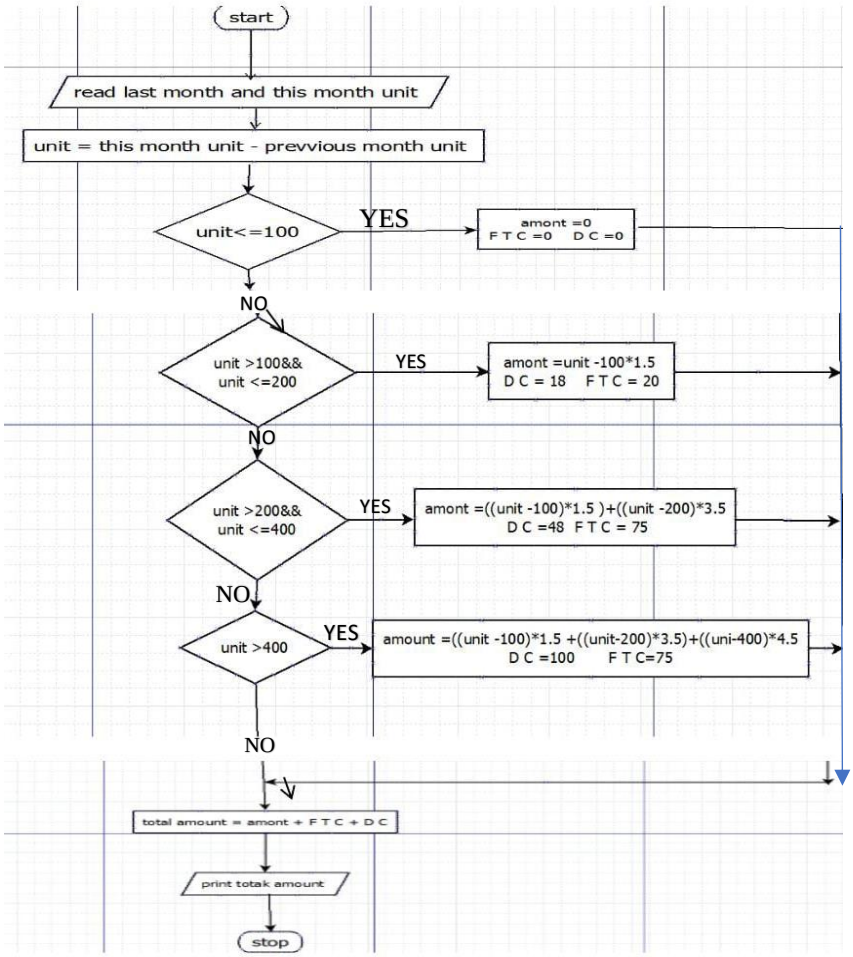
7.1: Calculate amount, DC, FC

7.2: Display Tot amount and go to Step 8

Step 8: Stop.

Result:

Thus the algorithm and flowchart is written for given program.



Result:

Thus the algorithm and flowchart is written for given program.

Expt no: 1 b

SINE SERIES

Aim:

To draw flowchart an algorithm for the following problem [Sine Series]

Algorithm:

Step 1: Start

Step 2: Get the value of x

Step 3: Initialize the value of i=1, Sine=0 and import math

Step 4: Get the value of N

Step 5: Check the value of i is less than N

5.1: If condition is true, convert x to radian and adding i to Y

Y=Y+X*(3.146/100)

5.2: Let the value of S be (-1) to the power i

5.3: Now calculate sine series using formula

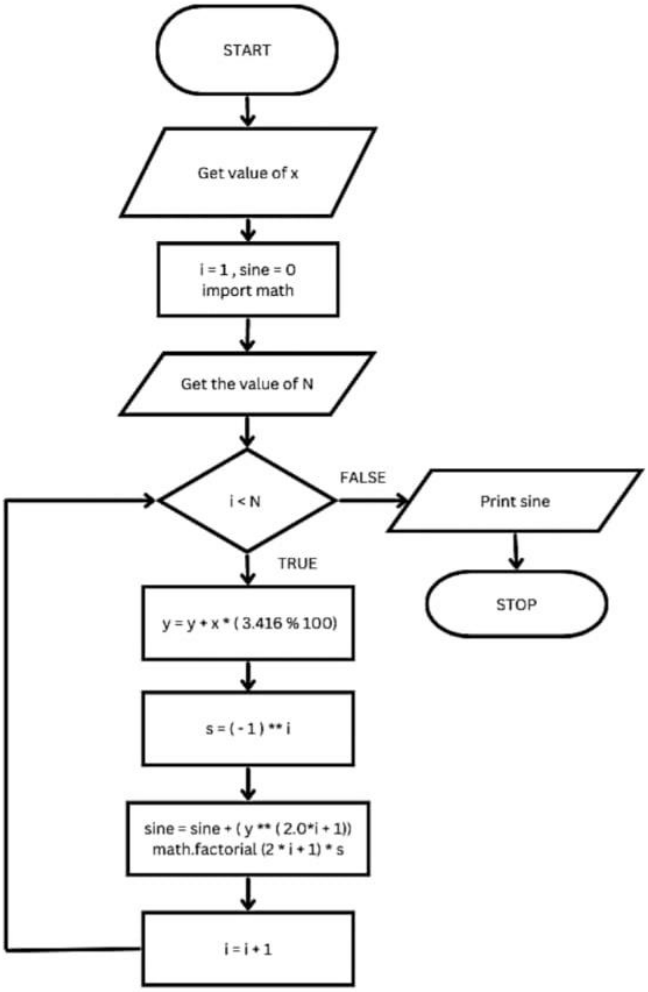
Sum = [[(-1) **i]*[x**(2+i)(2i+1)1]]!

5.4: Increment value of i by 1, go to Step 5

5.5: If condition is false, display sine.

Step 6: Stop

FLOWCHART:



Result:

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

Expt no: 1 c

Calculate Electric Current in three phase AC Circuit

Aim:

To draw flowchart and write algorithm for the given problem.

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

$$P=\sqrt{3}*PF*I*V$$

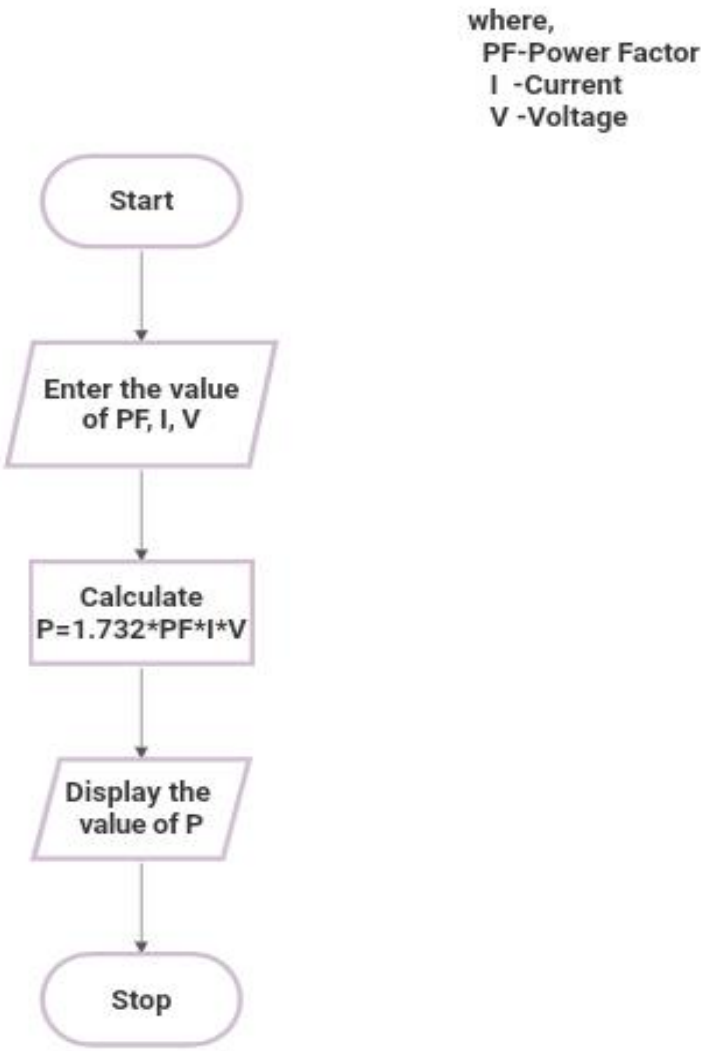
Step 6: Display the Value of P

Step 7: Stop

Result:

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

Flowchart:



Result:

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

Expt no: 1 d **Calculate weight of Steel Rod**

Aim:

To draw flowchart and write algorithm for calculating the weight of a Steel rod.

Algorithm:

Step 1: Start

Step 2: Get the no of iron rods

Step 3: Initialize value i and weight as 0.

Step 4: Check for condition i=n

4.1: If true, get the diameter of the rod

4.2: Calculate the weight, Unit Weight using the formula,

d*d/162=W

4.3: Calculate the weight using the Formula,

No. of rods*Weight=TW

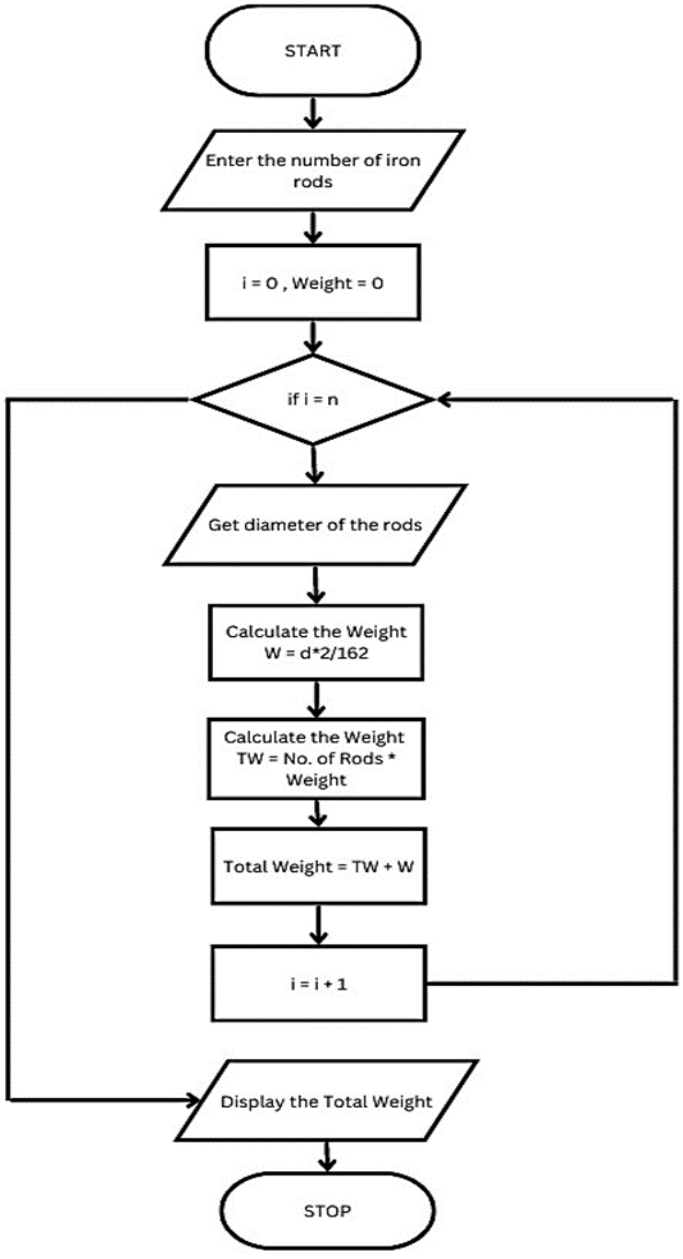
4.4: Calculate total weight= TW+W

4.5: Increment the value of i by 1, go to step 4

4.6: If false display the total weight

Step 5: Stop

Flowchart:



Result:

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

Expt no: 1 e

Retail Bill Shopping

Aim:

To draw flowchart and write algorithm for the following problems.

Algorithm:

Step 1: Start

Step 2: Get the Bill number

Step 3: Get Customer name, Addr and Ph.no

Step 4: Get the Value of total no. of items purchased

Step 5: Initialize the values for i=0, Total=0, Subtotal=0

Step 6: Check if condition, i<=n

6.1: If true, get item name, price, Qty and discount

6.2: Calculate the Subtotal=Qty*Price-Discount

6.3: Calculate the Total=Total+Subtotal

6.4: Increment the value of i and go to Step 6

Step 7: If false, get the GST value

Step 8: Calculate Tot_bill_amount=(Total+GST)/100

Step 9: Display Tot_bill_amount

Step 10: Stop

FLOWCHART:

Result:

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

Expt no: 1 f

Weight of a Motorbike

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 Rider 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

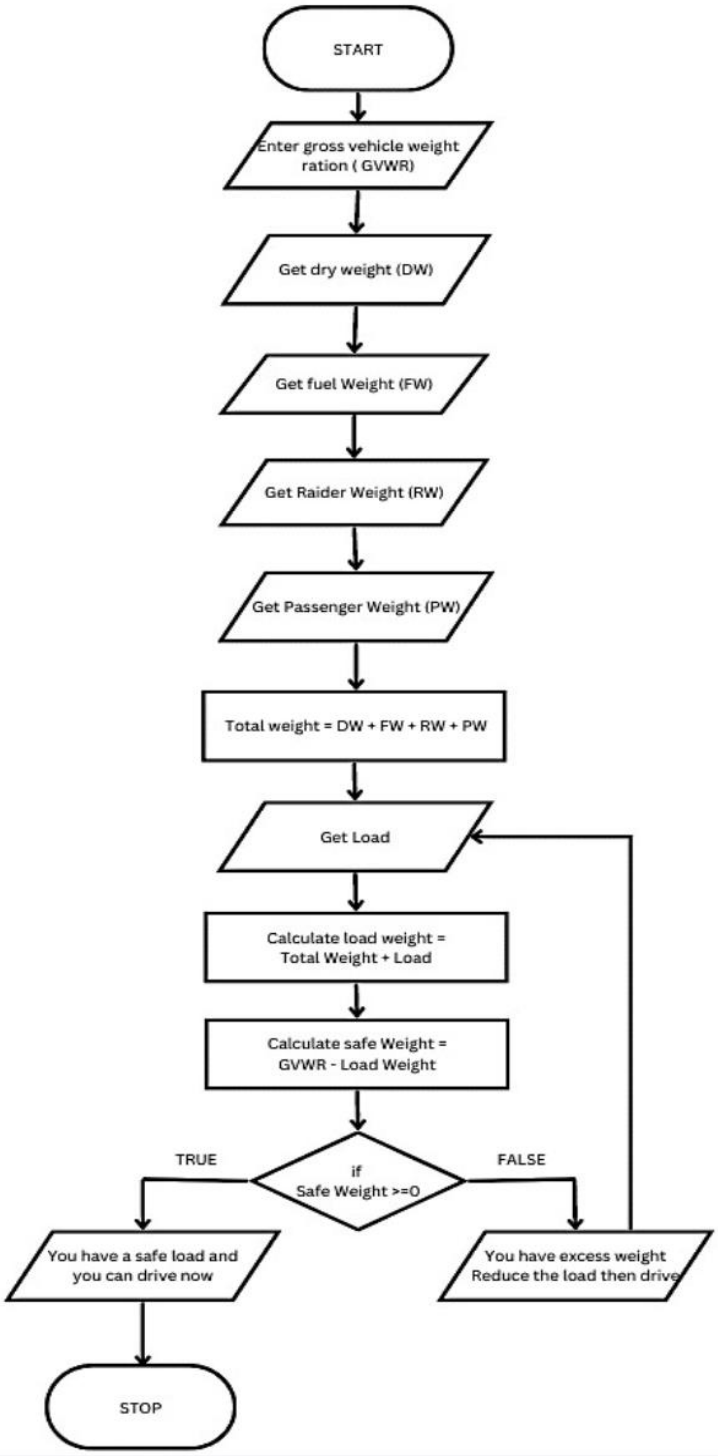
10.1: If true, print the message "You have a Safe load and you can drive" go

Go to step 11

10.2: If false, Print the message "Reduce the load and then drive" go Step 8

Step 11: Stop

Flowchart:



Result:

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

Expt no: 1 g

Student Grade Analysis

Aim:

To draw a flowchart and write algorithm for calculating Students Grade analysis

Algorithm:

Step 1: Start

Step 2: Read the no of Students: 'N'

Step 3: Initialize i=1

Step 4: if i<=N, go to Step 5, False, Go to Step 15

Step 5: Read the m1, m2, m3 and Name of the Students

Step 6: Total=m1+m2+m3

Step 7: Average=Total/3

Step 8: If avg>=90 & avg<=100; go to step 8.1; else go to Step 9

8.1: Grade=0

Step 9: If avg>=75 & avg<90; go to step 9.1; else go to Step 10

9.1: Grade=A

Step 10: If avg >=50 & avg < 75; go to step 10.1; else go to Step 11

10.1: Grade=B

Step 11: If avg>=35 & avg<50, go to Step 11.1, else go to Step 12

11.1: Grade=C

Step 12: If avg<35; yes; go to step 12.1; No go to Step 13

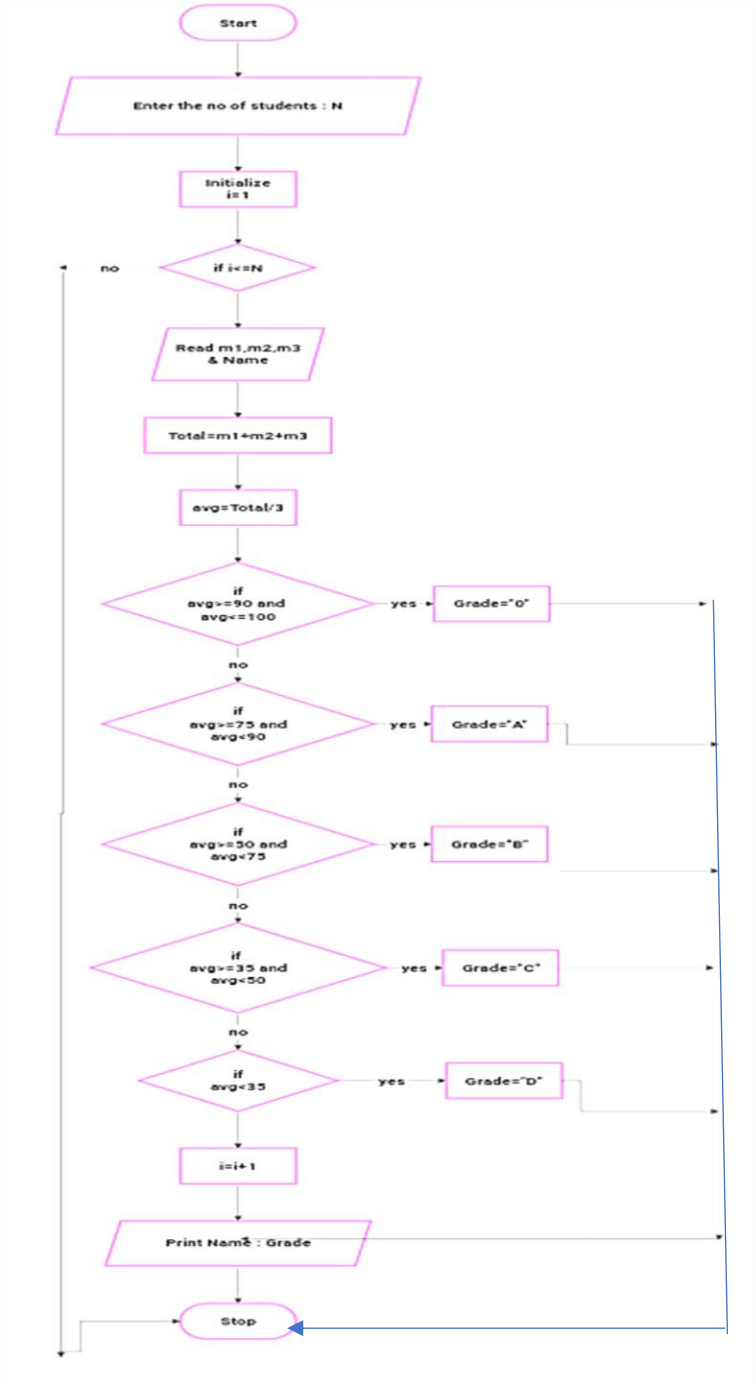
12.1: Grade=D

Step 13: Increment I, i=i+1

Step 14: Print Name and Grade

Step 15: Stop

Flowchart:



Result:

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