Exp No: 1- A **STUDENT GRADE ANALYSIS**

Date: 29/ 11/22

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.

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

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

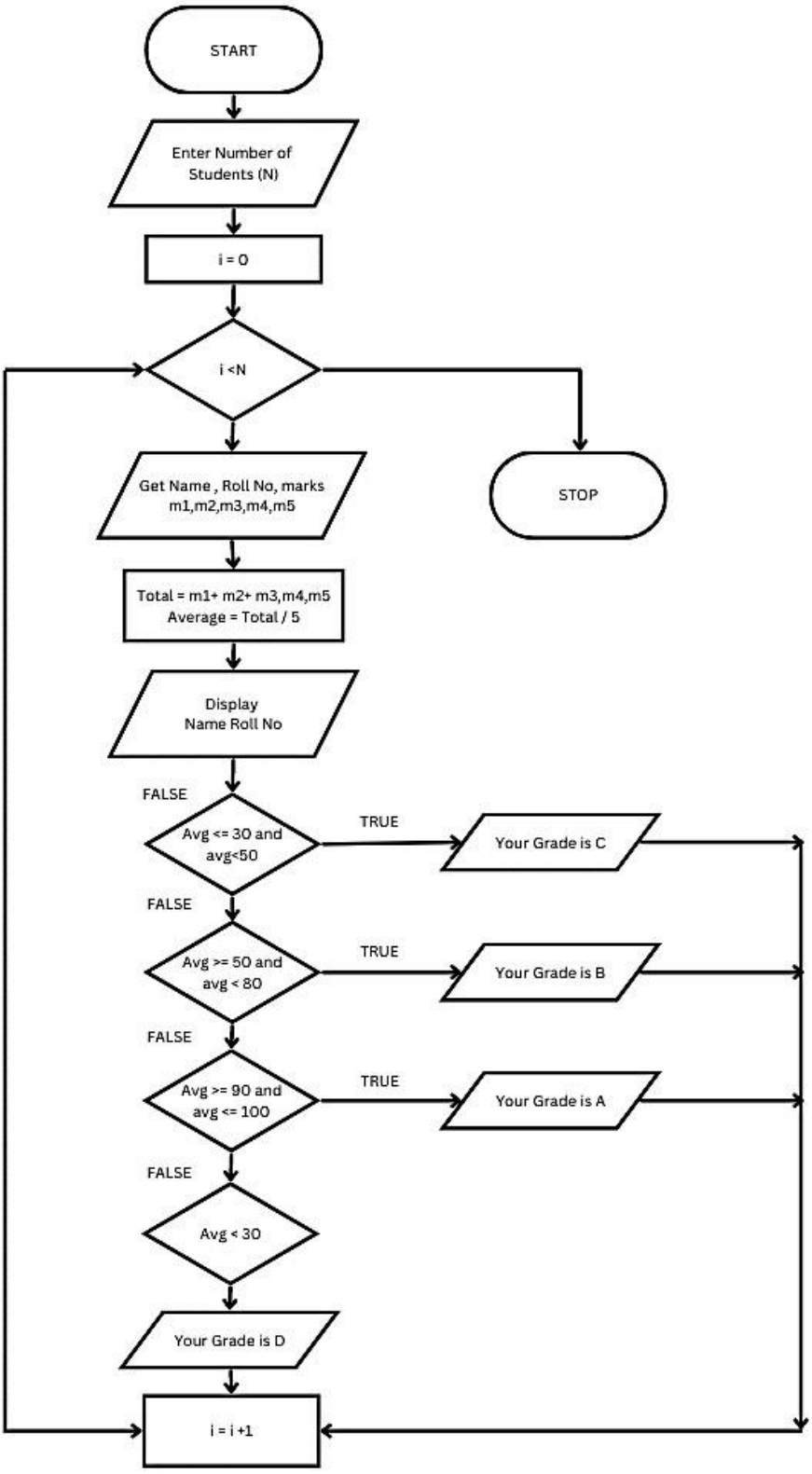
ENDIF i=i+1

STOP

FLOWCHART:

ROLL NO: 22CSEB47

NAME: NAVEEN KUMAR K



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

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

Exp No: 1- B **CALCULATING ELECTRIC BILL**

Date: 29/ 11/22

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 Total charges and go to Step 7.

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 the Total charges = FC + DC + EC

6.3: Display Total charges and go to Step 7.

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 Total charges and go to Step 7.

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 Total charges and go to Step 7.

STEP 7: Stop.

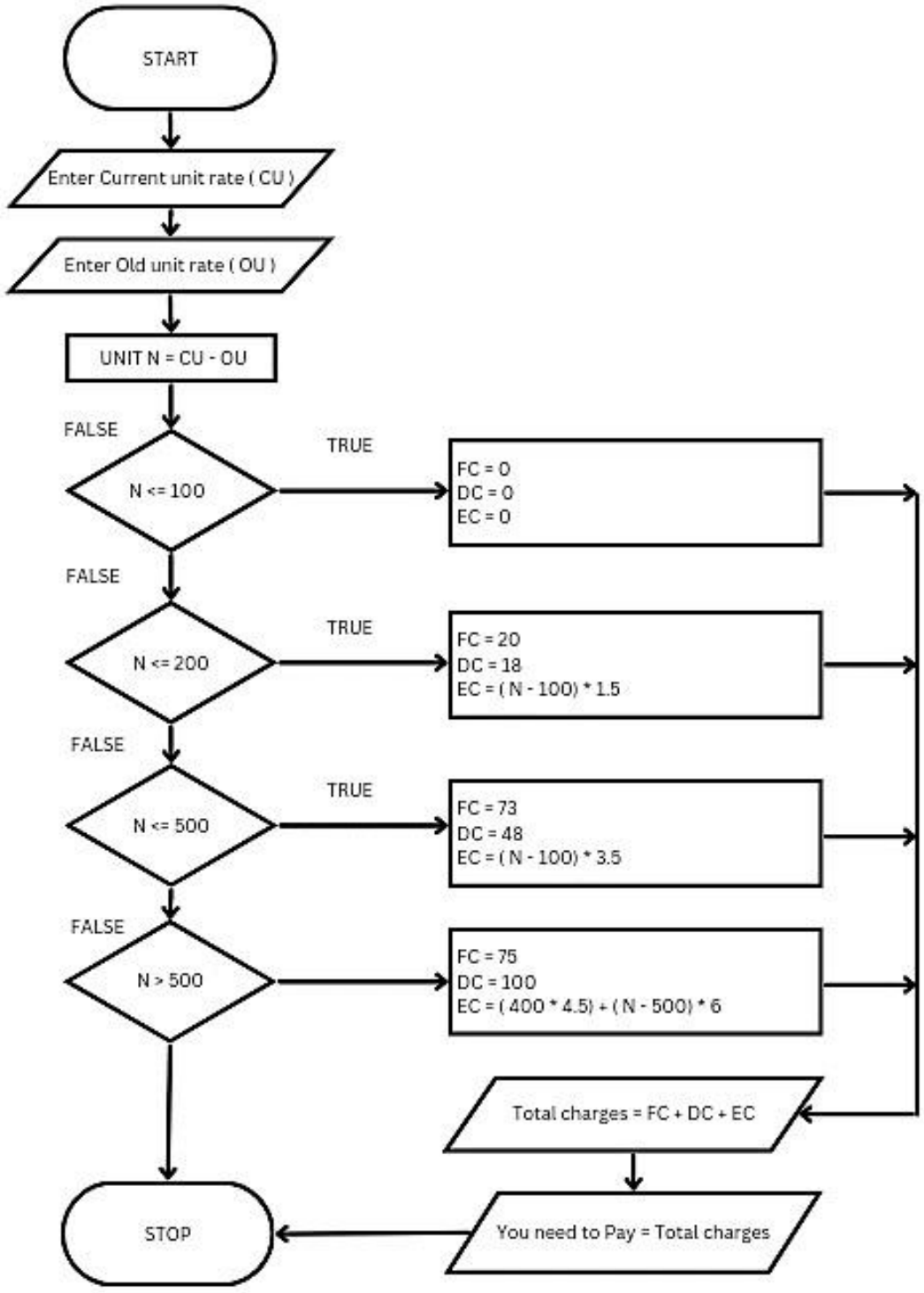
ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

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

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

FLOWCHART:



RESULT:

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

ROLL NO: 22CSEB47

NAME: NAVEEN KUMAR K

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

Exp No: 1- C **WEIGHT OF IRON ROD**

CALCULATE

Date: 29/ 11/22

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 rods.

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

STEP 4: Check for the condition i = n.

4.1: If 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. Tw = No.

of rods * weight

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

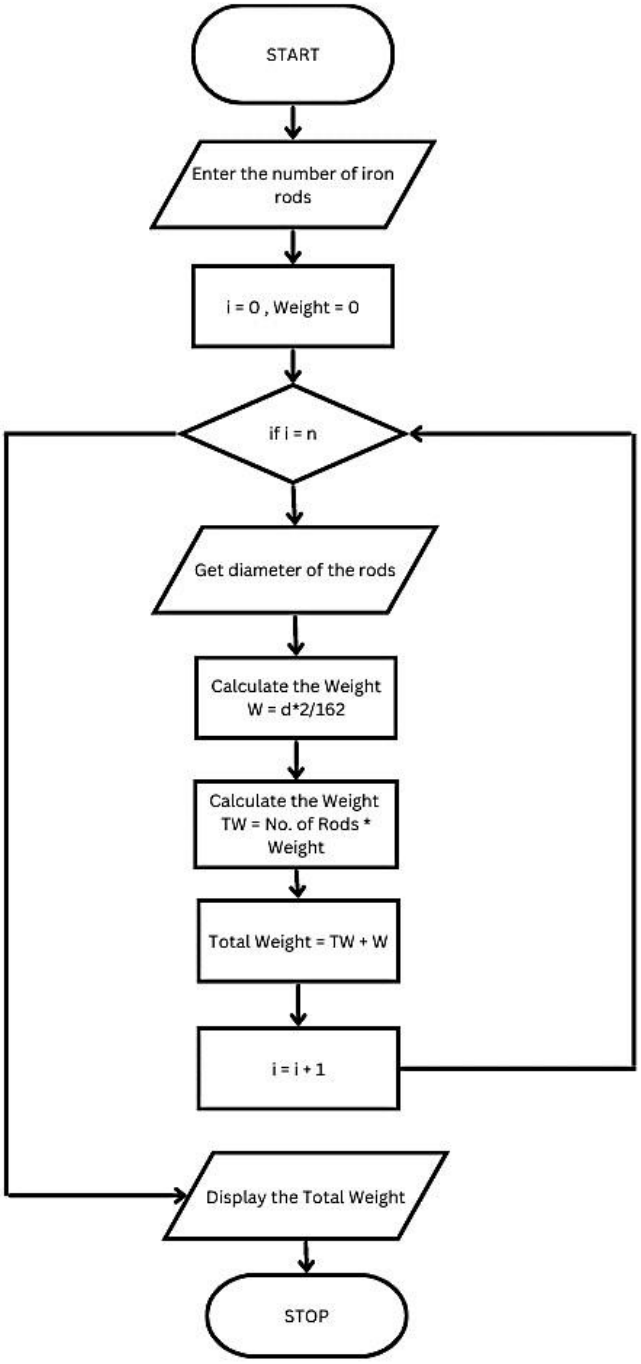
ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

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
```

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

FLOWCHART:



RESULT:

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

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

Exp No: 1- D **CALCULATE WEIGHT OF A MOTORBIKE**

Date: 29/ 11/22

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 Load Weight = Total Weight + Load **STEP 10:** Calculate Safe Weight = GVWR – Load Weight **STEP 11:** Check the condition safe weight >=0.

11.1: If true, print the message “You have a safe load and you can drive" goto stop.

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

11.2.1: GOTO step 8.

STEP 12: Stop.

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

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

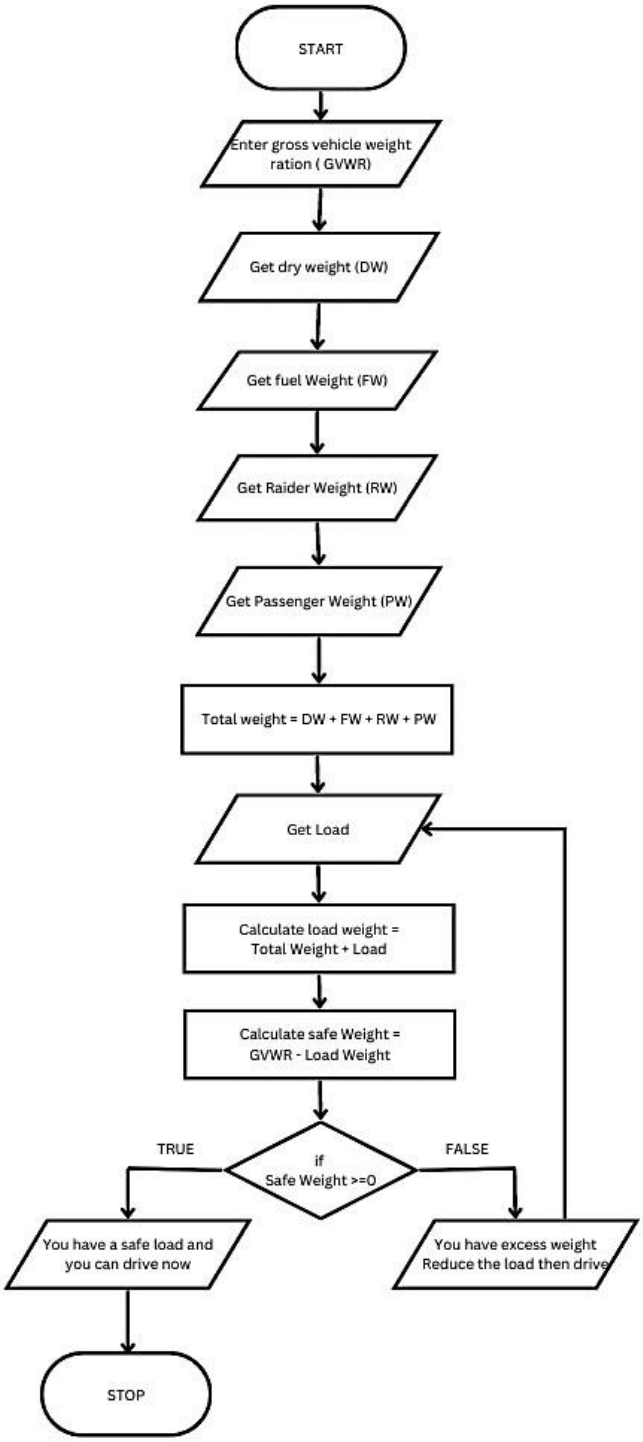
ENDIF

STOP

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

FLOWCHART

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K



RESULT:

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

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

Exp No: 1- E **Date: 29/ 11/22** **3 PHASE A/C CIRCUIT**

CALCULATE ELECTRIC CURRENT IN

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

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

PSEUDO CODE:

START

GET Pf

GET I

GET V

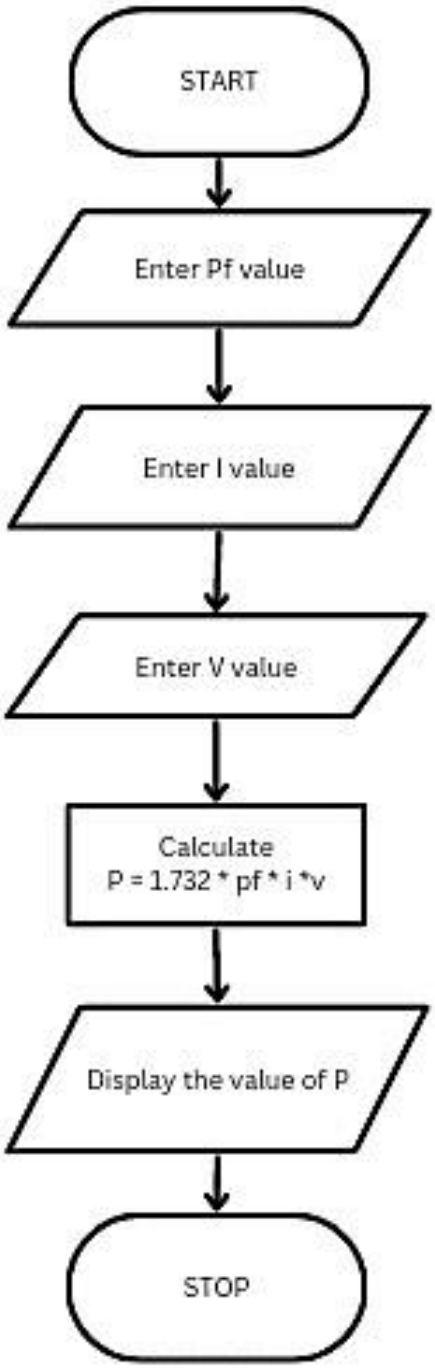
CALCULATE P = 1.732 * I * V

PRINT P

STOP

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

FLOWCHART:



ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

RESULT:

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

Exp No: 1- F **RETAIL SHOP.**

Date: 29/ 11/22

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, Net Amount = 0 and Gross=0.

STEP 6: Check if condition i<=n.

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

6.2: Calculate the Gross = Price * quantity Calculate the

Disc = Gross * Discount%

Calculate the Net Amount = Gross-Disc

6.3: Calculate the Total = Total + Net Amount.

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

STEP 7: If False, get the GST value.

STEP 8: Calculate GST Amount = (Gross * GST%) / 100.

Calculate the BILL Price = Net Amount + GST Amount **STEP 9:** Display the Bill Amount **STEP 10:** Stop.

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

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, Quantity, Discount

CALCULATE The Gross = Price * quantity

CALCULATE The Disc = Gross * Discount%

CALCULATE The Net Amount = Gross-Disc

CALCULATE the Total = Total + Net Amount

i=i+1

ELSE

GET GST

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

CALCULATE the BILL Price = Net Amount + GST Amount

PRINT BILL Price

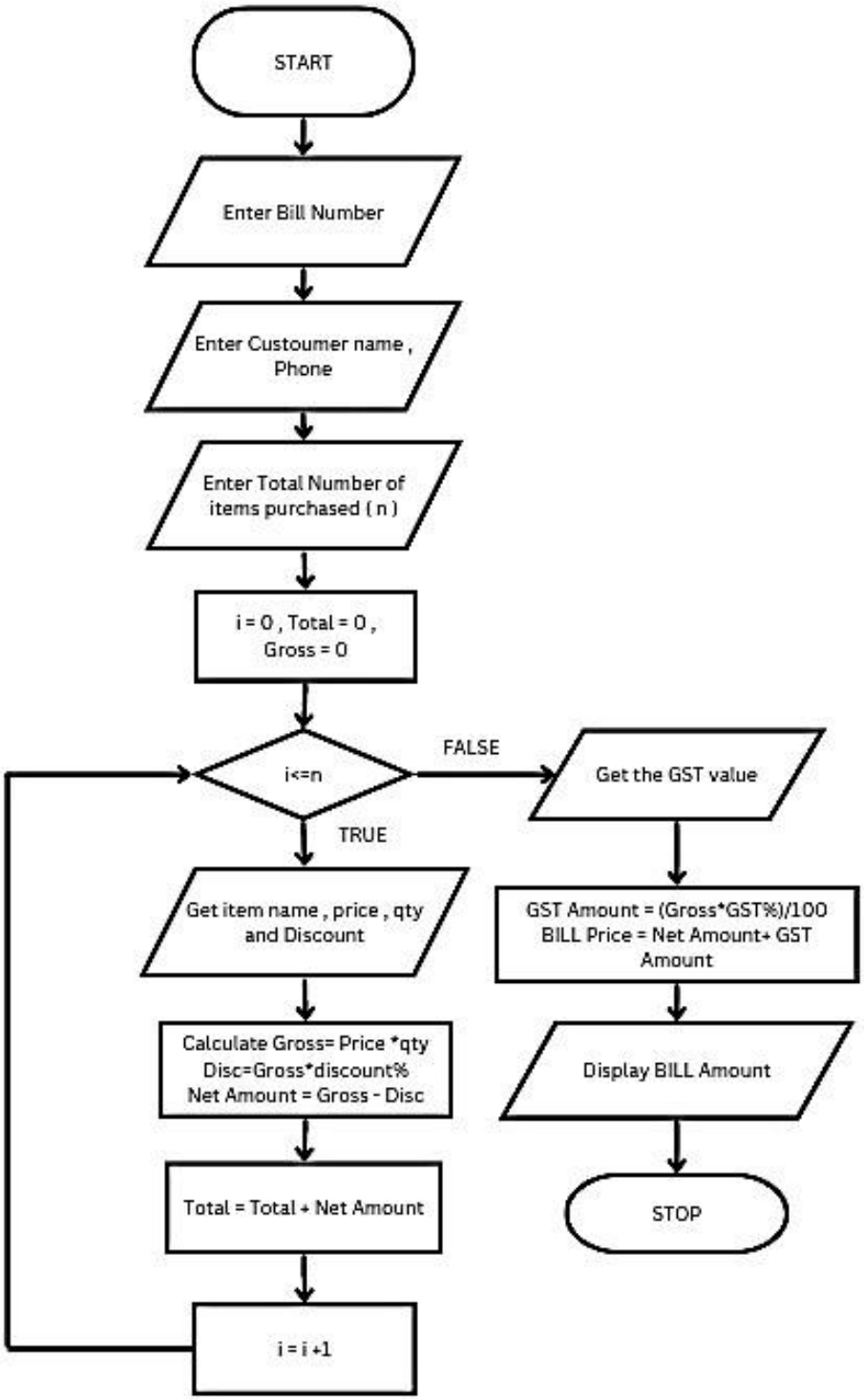
ENDIF

STOP

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

FLOWCHART:

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K



RESULT:

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

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

Exp No: 1- G **SINE SERIES.**

Date: 29/ 11/22

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 math.

STEP 4: Get the value of N.

STEP 5: Check weather value does i less than N

5.1: If condition is true, calculate y = y + x (3.416 % 100)

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 (2*i*1) S.

5.1.3: Increment value of i by 1.

5.2: If condition is false display sine.

STEP 6: Stop.

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

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

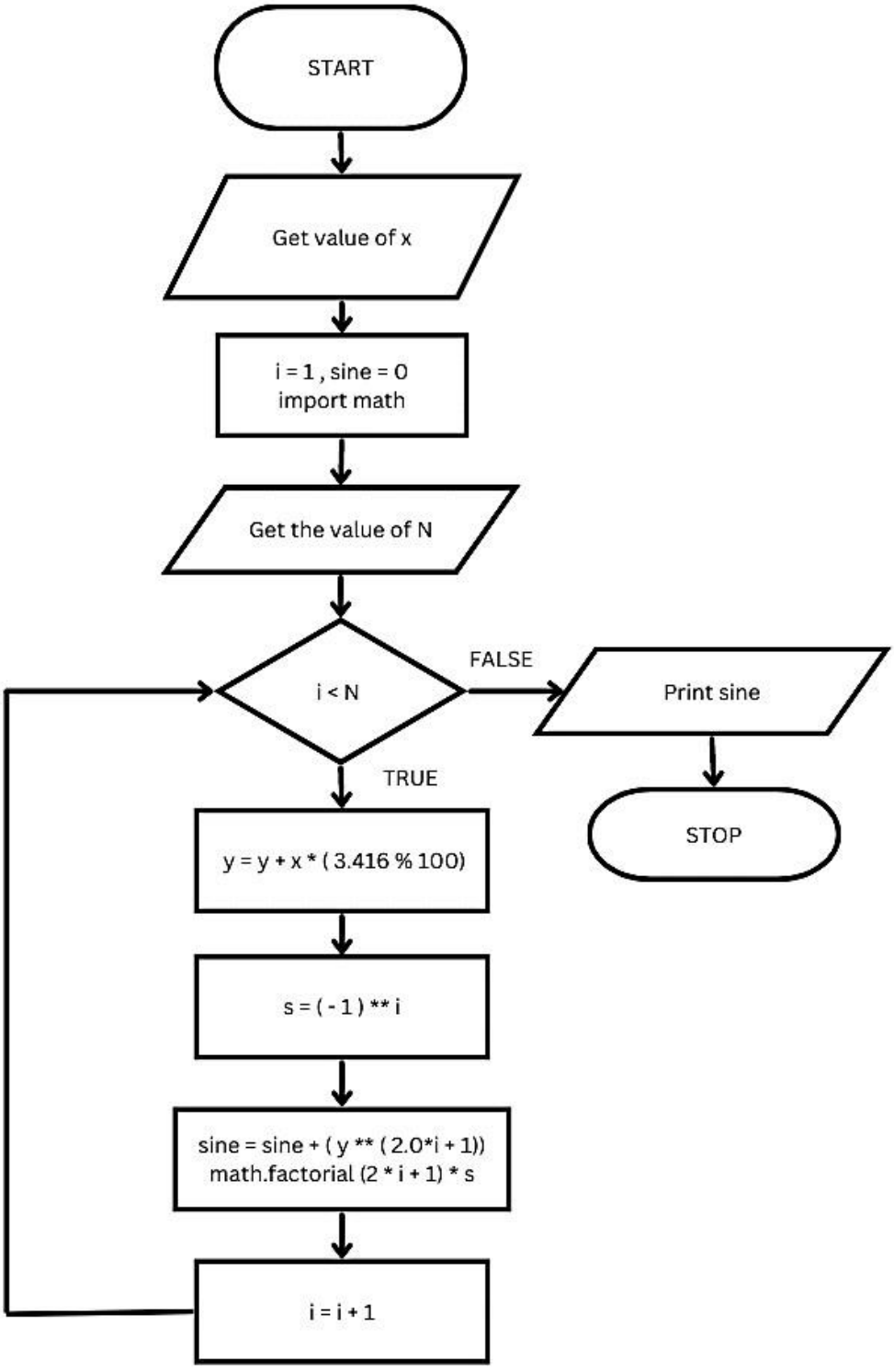
ENDIF

STOP

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K

FLOWCHART:

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K



RESULT:

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

ROLL NO: 22CSEB47
NAME: NAVEEN KUMAR K