Ex .No. 1

24/11/2022

IDENTIFICATION AND SOLVING OF SIMPLE REAL LIFE OR TEACHNICAL PROBLEMS AND DEVELOPING FLOW CHARTS FOR THE SAME.

a) Electricity bill

AIM:

To draw a flowchart and write algorithm for calculating electricity bill.

Step 1: Start

Step 2: Get no. of .units consumed as N

Step 3: Check condition if n<=100

3.1 If the condition is true , display no current charge else go to step 4

Step 4: Check the condition if n<=200

4.1 If the condition is true for 100 units ,no charge and to calculate energy for remaining with use formula 1.5\*(N-100)

4.2 Total charge is calculated by adding energy , duty charge and fixed charge .

4.3 Display current bill for the month in step 4.2 and go to stop

Step 5: check condition if n<=500:

5.1 If the condition is true for 100 units no charge

5.2 for 101-500 units, energy is charge calculated is 2 step.

5.2.1 for 101 -200 units, energy charge 1=100\*2=200.

5.2.2 for remaining units calculate energy charge 2 for remaining units will be (N-200)\*3.

5.3 calculated total energy charge by adding 5.2.1 & 5.2.2

5.4 Display current bill and go to step.

Step 6: check condition if n>500:

6.1 If condition is true for 100 units no charge

6.2 for condition 101, energy charge is calculated in 3steps,

6.2.1 : for 101-200 units, energy charge 1=100\*3.5=350.

6.2.2 : for 201-500 units , energy charge 1=300\*4.6=1380

6.2.3: for remaining units calculated energy charge 2 for remaining units will be 9(N- 500)\*6.6 and calculated total energy by adding 6.2.1,6.2.2 and 6.2.3

6.3 : Display current bill

Step 7: stop

Start

FLOW CHART:

Get the no. of. Units consumed

If units <=100

If units<=200

Stop

Display the current bill

Total charge=fixed charge +duty charge

Energy charge=0+(100\*3.5)+(300\*4.6)+(unit-500)\*6.6,fixed charge =500,duty charge =167.2

Energy charge0=(100\*2)+(unit-200)\*3,fixed charge=30,duty charge=48

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Energy charge=0 +(unit-100)\*1.5,fixed charge =20,duty charge=18

If unit>500

If units<=500

Energy charge=0, fixed charge=0, duty charge=0

Yes

No

Yes

No

Yes

No

Yes

PSEUDOCODE:

b) Retail shop billing

AIM:

To draw a flowchart and write algorithm and pseudocode for calculating retail shop billing.

ALGORITHM:

Step 1: Start

Step 2: get no. of. Products as n

Step 3: initialize i=1, amount=0

Step 4: check condition i<=n

4.1 if true, get product’s unit price and quantity ,else go to step 4.3

4.1.1 calculate amount=amount+(product’s unit price \*quantity)

4.1.2 increment by 1

4.2 if amount>500

4.2.1 if true discount amount=amount \*20% , else go to 4.2.4

4.2.2 Total amount = amount – discount amount

4.2.3 print total amount

4.2.4. print amount

4.3 print amount=0

Step 5: stop

FLOW CHART :

Start

Print amount

Total amount = amount-discount

Discount=amount\*20%

If amount>500

i=i+1

Amount = amount+(product’s unit price\*quantity)

Get products unit price and quantity

If i<=n

Amount=0, i=1

Get no. of .products purchased(n)

No

Yes

No

Yes No

Print total amount

Print amount =0

Stop

BEGIN

READ Bill no, Customer name, address

GET N

CHECK IF N==0 THEN

PRINT Sum=0

ELSE

INITIALIZE i=1, Sum=0

CHECK IF Sum>2000 THEN

COMPUTE Discount = Sum\* 0.20

CALCULATE Total amount= Sum- Discount

PRINT Total amount

PRINT Sum

END