//program to calculate and display the electricity bill- Array

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#include <stdio.h>

int main(){

int CustomerID,UnitConsumed;

char CustomerName[10];

float ChargesperUnit;

float totalbill;

float surcharge = 0;

float minimumBill = 100;

float TotalAmounttoPay;

//Array to display the charge rates and unit ranges for a customer

float rates [4] [3]= {{0, 199, 1.20},{200, 399, 1.50},{400, 599, 1.80},{600, 1000, 2.00}};

//prompt for user input values

printf("Input customer ID:");

scanf("%d",&CustomerID);

printf("Input customer name:");

scanf("%s",&CustomerName);

printf("Iput unit consumed(as a number):");

scanf("%d",&UnitConsumed);

//Calculate charges per unit based on the units consumed

if(UnitConsumed >= rates[0][0] & UnitConsumed <= rates[0][1]){

ChargesperUnit =rates[0][2];

}

else if(UnitConsumed >= rates[1][0] & UnitConsumed <= rates[1][1]){

ChargesperUnit =rates[1][2];

}

else if(UnitConsumed >= rates[2][0] & UnitConsumed <= rates[2][1]){

ChargesperUnit =rates[2][2];

}

else if(UnitConsumed >= rates[3][0] & UnitConsumed <= rates[3][1]){

ChargesperUnit =rates[3][2];

}

//Calculate the total bill

totalbill = UnitConsumed \* ChargesperUnit;

//Add a 15% surcharged fee if the bill exceeds 400

if(totalbill >=400){

surcharge = totalbill \* 0.15;

totalbill += surcharge;

}

//Make sure the mininimum bill is 100

if(totalbill < minimumBill){

totalbill = minimumBill;

}

//Calculate total amount to pay

TotalAmounttoPay = totalbill;

//Display the results

printf("customer id: %d\n",CustomerID);

printf("customer name: %s\n",CustomerName);

printf("unit consumed: %d\n",UnitConsumed);

printf("charges per unit: %.2f\n",ChargesperUnit);

printf("total amount to pay: %2.f\n",TotalAmounttoPay);

return 0;

}