Mount Pleasant

The city of Mt. Pleasant bills its residents for sewage, water and sanitation every three months. The sewer and water charge is figured according to how much water is used by the resident. The scale is:

|  |  |
| --- | --- |
| **Amount (gallons)** | **Rate (per gallon)** |
| Less than 1,000 | $0.03 |
| 1,000 to 2,000 | $30 + $0.02 for each gallon over 1,000 |
| Greater than 2,000 | $50 + $0.015 for each gallon over 2,000 |

The sanitation charge is $7.50 per month.

If the customer is renting a water heater from the city, an additional charge of 12.75 a month is added on to the bill.

Write a class called **Customer** that contains instance variables for the customer name, the number of months for which a resident is being billed (1, 2 or 3), how much water was used and whether or not they are renting a water heater.

The class should contain methods to:

* get and set the instance variables
* calculate the sanitation charge
* calculate the water charge
* calculate the water heater charge
* calculate the total fee

Constants should be included in the class to define:

* monthly sanitation charge
* monthly water heater charge

All money should be displayed using currency format.

Write a class called **WaterBill** that contains a main method. It should instantiate a **Customer** object, input the usage data and call the methods necessary to produce the water bill. If the number of months entered is incorrect, the number of months should be set to 3 and an error message should be displayed notifying the customer that they entered invalid data and the number of months is set to 3.

Sample output for two customers:

Enter resident name: Ivor Good

Does the resident rent a water heater (Y/N)? y

Enter number of months: 5

5 is an invalid number of months. Months has been set to 3Enter number of gallons of water used: 1005

Mount Pleasant Water Bill

Resident name: Ivor Good

Number of Months Billed: 3

Number of Gallons Used: 1005.00

Sanitation Charge: $22.50

Water Charge: $30.10

Water Heater Rental: $30.10

Total Amount Owing: $90.85

Thank you

Enter resident name: Dan Yell

Does the resident rent a water heater (Y/N)? n

Enter number of months: 2

Enter number of gallons of water used: 210

Mount Pleasant Water Bill

Resident name: Dan Yell

Number of Months Billed: 2

Number of Gallons Used: 210.00

Sanitation Charge: $15.00

Water Charge: $6.30

Total Amount Owing: $21.30

Thank you