

# Tip Calculator

Name:	
-------	--

1. Start a new IntelliJ project (LASTNAMETipCalcRefactor).
2. **Refactor** the code from your Tip Calculator project -- *in which you wrote everything inside the main method of a single class* -- into two classes: one named TipCalculatorRunner or Main(if you prefer), and the other named TipCalculator.  
Your TipCalculatorRunner (or Main) class should have your main method.
3. Your TipCalculator **class** should function similarly to the Student class in your Student Program in that it will store data and perform calculations for your program.

Your TipCalculator class should have the following **instance variables**:

- numPeople, the number of people in the group (an int)
- tipPercentage, the tip percentage, either as a whole number percentage (int, e.g. 20) or its decimal equivalent (double, e.g. 0.20), up to which which type
- totalBillBeforeTip: the total bill before tip is added (double value)

Your TipCalculator class should have a single **constructor** with *two* parameters that represent the number of people and tip percentage:

- initialize your numPeople and tipPercentage instance variables to the values of these parameters.
- initialize the third instance variable, totalBillBeforeTip, to a default value of 0.0, since it hasn't had any value added to it yet.

Your TipCalculator class should have the following methods that calculate and *return* the values described below; you should **RETURN** all values -- do **not** add print statements in your TipCalculator class, all printing should be handled by the code in your main method (as we will learn later, it's best practice to have your program's "logic" in one class, and input/output in another):

- getTotalBillBeforeTip() : getter method that returns the totalBillBeforeTip instance variable
- getTipPercentage(): getter method that returns the tipPercentage instance variable
- addMeal(double cost): method that increments totalBillBeforeTip by cost and returns no value
- tipAmount(): method that calculates and returns a double representing the total tip amount added to the bill

- `totalBill()`: method that calculates and returns a double representing the group's total bill *including* tip
- `perPersonCostBeforeTip()`: method that calculates and returns a double representing the per person cost *before* tip
- `perPersonTipAmount()`: method that calculates and returns a double representing the per person tip amount
- `perPersonTotalCost()`: method that calculates and returns a double representing the total cost per person

4. After you design your `TipCalculator` class, **refactor** the code from your original `Tip Calculator` project. In the main method of your `TipCalculatorRunner` (or `Main`) class, use a `TipCalculator` object to perform **all** calculations. Keep all print statements in your main method as before, but *all calculations* should be handled by your `TipCalculator` object (the `TipCalculator` doesn't print anything, but rather returns all values to your main program for printing!).

**NOTE** on the `DecimalFormatter`: You can leave the code related to your `DecimalFormatter` object and all the formatting in the main method of your `TipCalculatorRunner/Main` class (since this is where all the printing is done).

For reference, here is the same test input/input for you to use for testing your refactored code:

```
Welcome to the tip calculator!
How many people are in your group? 6
What's the tip percentage? (0 - 100): 25
Enter a cost in dollars and cents, e.g. 12.50 (-1 to end): 17.50
Enter a cost in dollars and cents, e.g. 12.50 (-1 to end): 9.99
Enter a cost in dollars and cents, e.g. 12.50 (-1 to end): 10.79
Enter a cost in dollars and cents, e.g. 12.50 (-1 to end): 8.49
Enter a cost in dollars and cents, e.g. 12.50 (-1 to end): 5.50
Enter a cost in dollars and cents, e.g. 12.50 (-1 to end): -1
-----
Total Bill Before Tip: 52.27
Tip Percentage: 25
Total Tip: 13.07
Total Bill With Tip: 65.34
Per Person Cost Before Tip: 8.71
Tip Per Person: 2.18
Total Cost Per Person: 10.89
→
```

Copy/paste your `TipCalculatorRunner` (or `Main`) class below:

Copy/paste your TipCalculator class below: