INSTITUTE OF TECHNOLOGY

Computer Science 121 – Fall 2019

Project 1: Basic Java Programming **Deadline:** Friday, September 20, (midnight) in e-campus.

Objectives: Implementing java variables, data types, assignment statement, expressions, operators, constant, input/output and partially implicit type casting.

Any program that does not compile will be automatically given 0 points and not graded. So make sure before submitting that your program compiles without any error.

Q1. Class Name: YourLastNameTipCalculator.java (Replace YourLastName eg. DoeBillCalculator.java if you name is Jon Doe) (30 Points)

Description: You are supposed to create a program that helps user to compute final bill in a restaurant.

Write a well-commented program that reads the subtotal and the tip rate from the user, then computes the tip amount and the total. For example, if the user enters 10 for subtotal and 15% for tip rate, the program displays $1.5 as tip amount and $11.5 as total amount. Here is a sample:

Input: User will input total amount and tip rate.

Output: In a single line, print the total tip amount and total bill amount.

Notes:
-Remember the tip rate is given in percentage.
-User can input any amount.
- The output format must be exactly as shown (Remember the amount value will depend on the input)

An example of the output is as follows:

```
Enter subtotal: 20
Enter tips rate: 20
The gratuity is $4.0 total is $24.0
```

Submission: Submit YourLastNameBillCalculator.java to your ecampus account (ecampus.wvu.edu). Do not submit .class file or .java~ file.

Q2. Class Name: YourLastNameCostShare.java (Replace YourLastName eg. DoeCostShare.java if you name is Jane Doe) (70 Points)

Description: You and your friends are sharing a car to commute to the university. Assume that the total amount of cost per month is $250.00 and it is constant. To fairly share the cost, you decided to split the monthly cost proportional to the total distance from university to each student's house (total distance is in integer form).

> Write a well-commented program that will ask each student the distance in miles from university to their house and output how much each person owes. Note: Declare TOTAL_COST as constant double which is the total monthly cost of commute ($250.00).

Input: User will input each student's distance from house. Input should be **integer** type.

Output: Create a bill for all three students. (Display numbers as decimal with maximum two digits after the decimal point, as we did in class examples). Floating point numbers may not add up exactly to $250.00 due to round off errors. Your bill display should be displayed similarly as shown below.

```
> run CostShare
Hello!
Enter how far is Adam's house from University?
 9
Enter how far is John's house from University?
 12
Enter how far is Michael's house from University?
 15

Total cost is       : $250.0
-------------------------------------
Adam        owes    : $62.5
John        owes    : $83.33
Michael     owes    : $104.16
-------------------------------------
>
```

Submission: Submit YourLastNameCostShare.java to your ecampus account (ecampus.wvu.edu). Do not submit .class file or .java~ file.

If you have multiple submissions of the same file, only the latest one will be graded.

West Virginia University
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Tentative Grading rubric

This is a general grading guideline. Instructors reserve rights to make modifications as necessary.

	SN	Grading criteria / Scores represent the max they can get in each category	Correct/ Applied /Present	Mostly correct, few incorrect	Mostly incorrect, few correct	Incorrect /Not applied /Not present
Q1	1	Comments (Program, method, statement levels)	10	8	5	0
	2	Java syntax is correct (class names starting with capital letter, variable names starting with small letter/making sense etc.)	10	8	5	0
	3	Use of scanner to get input	15	12	7	0
	4	Proper prompts to user	10	8	5	0
	5	Use of proper double or integer values	10	8	5	0
	6	Correct computation	25	18	10	0
	7	Proper display of results	10	8	5	0
	8	Proper execution as asked in question	10	8	5	0
		Total	100			
		Q1 Total	30			
Q2	1	Comments (Program, method, statement levels)	10	8	5	0
	2	Java syntax is correct (class names starting with capital letter, variable names starting with small letter/making sense etc.)	10	8	5	0
	3	Use of scanner to get input	5	4	2	0
	4	Proper prompts to user	5	4	2	0
	5	Use of proper double or integer values	5	4	2	0
	6	Correct computation	40	30	20	0
	7	Proper display of results	15	12	7	0
	8	Proper execution as asked in question	10	8	5	0
		Total	100			
		Q2 Total	70			
		Total Points	100			

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Total	100