

CS 1101 Lab 5 - Methods

Released on: **Monday, October 15th**

Due on: **Sunday October 21, 11:59pm**

How: submit zip file to Google classroom

What: A zip file named after you (LastNameFirstName-lab05.zip) containing a Java file as a solution to your problem

Lab Description

In this lab you will create a Java file, MyJavaLab05.java and complete the outlined objectives below. Make sure you read the instructions closely, and fulfill each requirement listed in each objective.

Note: orange text is what you print, blue text is the text the user typed in.

Objective 1

Print your name and student ID to the screen, in the format:

YourLastName, YourFirstName, YourStudentID

Objective 2

In the main method, call a method named **startProgram**.

Objective 3

Create a method named **startProgram** that welcomes a user to working with numbers, and asks a user to enter two numbers, and then call a method **menuOptions**, passing the two numbers

Expected output:

Welcome to Working with Numbers!

Please enter two numbers:

Number 1:

36.0

Number 2:

4.5

Objective 4

Create a method named **menuOptions** that has two decimal parameters, prompts the user with a menu using the parameters passed into the method:

Please select a menu option below:

1. Calculate $36.0 + 4.5$

2. Calculate $36.0 - 4.5$

3. Calculate $36.0 * 4.5$

4. Calculate $36.0 / 4.5$

5. Calculate $36.0 ^ 4.5$

3

Based on the option selected, call the corresponding method to calculate the result:

Option	Method name
1	addNumbers
2	subtractNumbers
3	multiplyNumbers
4	divideNumbers
5	powerNumbers
anything not 1-5	No method needed, just print "Invalid menu option" and exit the method.

Each method should take two decimal parameters, and return a decimal result. With the returned result, print the result inside of the **menuOptions** method.

Objective 5

Implement each of the methods in the above table.

Example full output of the program

Note: orange text is what you print, blue text is the text the user typed in.

Welcome to Working with Numbers!

Please enter two numbers:

Number 1:

12.1

Number 2:

23.4

Please select a menu option below:

1. Calculate $12.1 + 23.4$

2. Calculate $12.1 - 23.4$

3. Calculate $12.1 * 23.4$

4. Calculate $12.1 / 23.4$

5. Calculate $12.1 ^ 23.4$

1

The result is: 35.5

Would you like to keep Working with Numbers? (y/n)

y

Welcome to Working with Numbers!

Please enter two numbers:

Number 1:

23.4

Number 2:

34.5

Please select a menu option below:

1. Calculate $23.4 + 34.5$

2. Calculate $23.4 - 34.5$
3. Calculate $23.4 * 34.5$
4. Calculate $23.4 / 34.5$
5. Calculate $23.4 ^ 34.5$

2

The result is: -11.1

Would you like to keep Working with Numbers? (y/n)

y

Welcome to Working with Numbers!

Please enter two numbers:

Number 1:

34.5

Number 2:

45.6

Please select a menu option below:

1. Calculate $34.5 + 45.6$
2. Calculate $34.5 - 45.6$
3. Calculate $34.5 * 45.6$
4. Calculate $34.5 / 45.6$
5. Calculate $34.5 ^ 45.6$

3

The result is: 1573.2

Would you like to keep Working with Numbers? (y/n)

y

Welcome to Working with Numbers!

Please enter two numbers:

Number 1:

100

Number 2:

10

Please select a menu option below:

1. Calculate $100.0 + 10.0$
2. Calculate $100.0 - 10.0$
3. Calculate $100.0 * 10.0$
4. Calculate $100.0 / 10.0$
5. Calculate $100.0 ^ 10.0$

4

The result is: 10.0

Would you like to keep Working with Numbers? (y/n)

y

Welcome to Working with Numbers!

Please enter two numbers:

Number 1:

3

Number 2:

3

Please select a menu option below:

1. Calculate $3.0 + 3.0$

2. Calculate $3.0 - 3.0$

3. Calculate $3.0 * 3.0$

4. Calculate $3.0 / 3.0$

5. Calculate $3.0 ^ 3.0$

5

The result is: 27.0

Would you like to keep Working with Numbers? (y/n)

n

Note: the questions/prompts should be phrased exactly as they appear above. You don't need to worry about color formatting your terminal, it's color coded above to distinguish between what you print to the screen and what the user entered.

What do you have to turn in?

A Java file named **MyJavaLab05.java** inside a zip folder named LastNameFirstName-lab05.zip

Criteria for grading:

- [10 pts] Your lab is submitted according to specifications (proper name of file, proper format)
- [10 pts] Well commented code explaining what you are doing (clear and grammatically correct)
- [5 pts] Objective 1
- [10 pts] Objective 2
- [25 pts] Objective 3
- [25 pts] Objective 4
- [15 pts] Objective 5