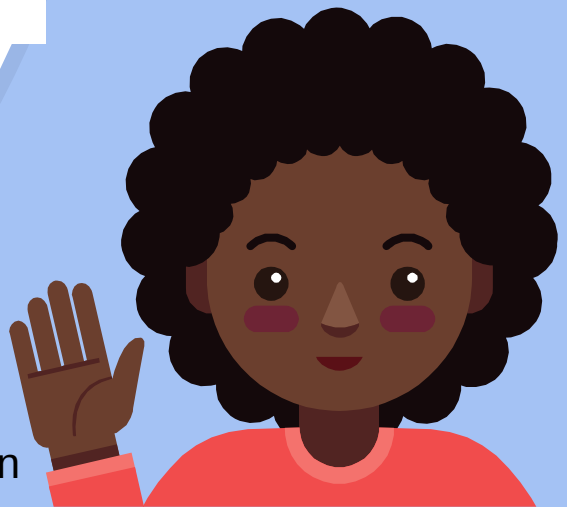
JAVA PL MEETUP SESSSION

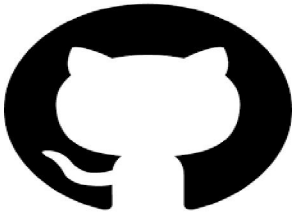


By Ivoline and Ivan

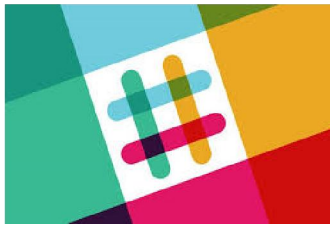
WELCOME

Welcome to “Java Programming: P/L Meetup”.
We are really excited to be guiding you through your journey to becoming a great java programmer.

We’ll use Github to commit codes for every task done, assigneda or personal

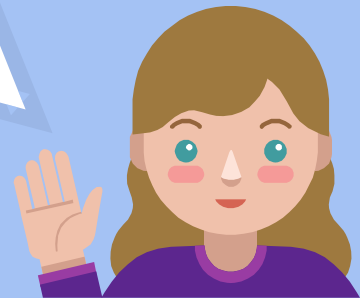


We’ll use a Slack Channel to communicate as a team, ask questions whenever you face a problem, answer your fellow mates problem and share ideas.



Therefore by the end of this meetup, every student should be able to use git and be able to participate in online teams and be good at java.

BEFORE YOU BEGIN



The book we'll be using through out this meet up will be

"JAVA HOW TO PROGRAM" 10th EDITION
By Paul and Harvey Deitel

- *Install jdk 1.8*
- *Install an IDE, eclipse or netbeans*
- *Create github accounts*
- *Join the slack channel*
- *Get all necessary documents from mentor*

WEEK 1

INTRODUCTION TO JAVA

1. 1 BASIC PROGRAMMING CONCEPTS IN JAVA

In this module, we will be studying Chapter 2: Introduction To Java Applications.

In this chapter, you will learn many important features of Java, including displaying data in a command prompt, inputting data from the keyboard, performing calculations and making decisions.

1.2 CLASSES, OBJECTS AND METHODS

In this module, we will be studying

Chapter 3: Introduction To Classes, Objects, Methods and Strings.

In this chapter, you will learn how to manipulate variables (declaring, difference between local and instance variables, initializing variables etc), manipulate methods (Calling methods, Passing information to methods as arguments etc) and using constructors.

TASK OF THE WEEK

- ×Exercise 2.34: World Population Growth Calculator
- ×Exercise 3.16: Target-Heart-Rate Calculator

WEEK 2

CONTROL STATEMENTS

2.1 CONTROL STATEMENTS: IF, IF...ELSE AND WHILE

In this module, we will be studying
Chapter 4: Control Statements: Part1.

You will learn how to construct and refine algorithms using pseudocode development.
Learn to use the if, if.else and while repetition statements.
We'll also discuss the different operators and primitive types in Java.

2.2CONTROL STATEMENTS: FOR, DO...WHILE AND SWITCH

In this module, we will be studying

Chapter 4: Control Statements: Part2.

Here, we'll learn how to use the while, do..while and for repetition statements. Also, we'll learn about java's logical operators.

2.3 TASK OF THE WEEK

- Exercise 4.39: World Population Growth
- Exercise 5.30: Global Warming Facts Quiz

WEEK 3

METHODS: A DEEPER LOOK

3.1 METHODS: A DEEPER LOOK

In this module, we will be studying
Chapter 6: Methods: A Deeper Look.

We’ll get a deep insight on declaring methods, differentiating between non-static and static methods and manipulating them.
Besides this, we’ll talk about how to perform string concatenations with the + and += operators, using the Random class to generate random numbers for simulation and the scope of fields and local varia in a class.

3.2 TASK OF THE WEEK

Exercise 6.35: Computer-Assisted Instruction

Exercise 6.36: Computer-Assisted Instruction (Reducing Student Fatigue)

WEEK 4

INTRODUCTION TO DATA STRUCTURES (ARRAYS AND ARRAYLISTS)

4.1ARRAYS AND ARRAYLISTS

In this module, we will be studying
Chapter 7: Arrays And ArrayLists.

This week, we'll learn what arrays are and how to manipulate them.
Iterating through arrays using a for loop, exception handling of arrays and using multidimensional arrays. We'll also be introduced to the ArrayList<T> generic collection and its operations.

4.2 TASK OF THE WEEK

Exercise 7.19: Airline Reservation System

WEEK 5

CLASSES AND OBJECTS: A DEEPER LOOK

5.1 CLASSES AND OBJECTS

In this module, we will be studying
Chapter 8: Classes and Objects; A Deeper Look.

This week we'll study additional class concepts like setters, getters, a deeper look at constructors and packaging your own class for reuse.
This week will also give us a chance to catch up with any work that hasn't been done or play around with what we've learned so far.

5.2 TASK OF THE WEEK

Exercise 8.11: Complex Numbers

WEEK 6

OBJECT-ORIENTED PROGRAMMING: INHERITANCE AND POLYMORPHISM

6.1 INHERITANCE AND POLYMORPHISM

In this module, we will be studying Chapter 9 AND 10: Object Oriented Programming: Inheritance and Polymorphism

This week we'll be talking about the most essential aspects of Object Oriented Programming, classes, objects, encapsulation, inheritance, interfaces and polymorphism.

6.1 INHERITANCE AND POLYMORPHISM

In Chapter 9, we'll learn the concepts of inheritance - superclasses and subclasses, the extends keyword, the @Override annotation etc

We'll also learn about Polymorphism in Chapter 10- abstract classes, determining an object's type at execution time, final methods and classes, declaring and implementing interfaces etc

6.1 TASK OF THE WEEK

Exercise 9.3: Base Plus Commission Employee

Exercise 10.13: CarbonFootprint Interface: Polymorphism

WEEK 7

STRINGS, REGEX AND FILE HANDLING

7.1 STRINGS, REGEX AND FILE HANDLING

In this module, we will be studying

Chapter 16: Strings, Characters and Regular Expressions

Here, we'll learn more about String methods and manipulating Strings. Using StringBuilder class and using regular expressions.

7.1 CONT'D

Chapter 17: Files, Streams and Object Serialization

After this Chapter we'll know how to process files including how persistent data is stored and retrieved. Using the class File and learning the difference between text-file processing and object serialization.

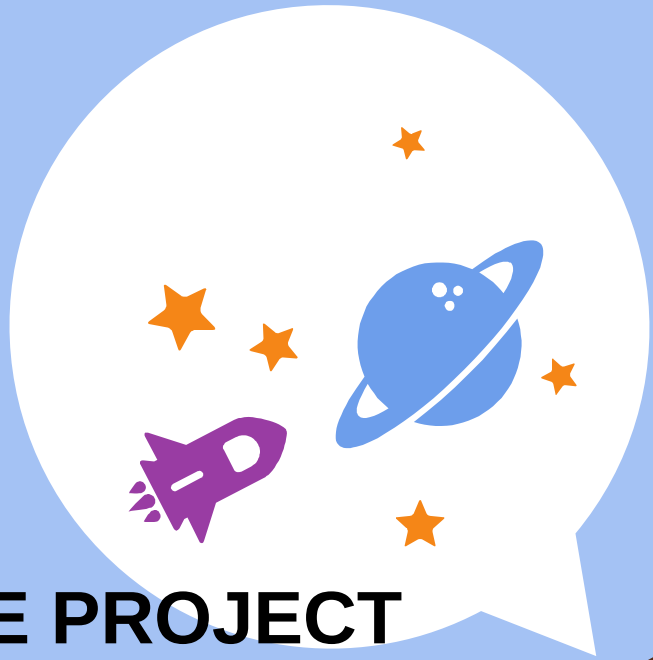
7.2 TASK OF THE WEEK

Chapter 17: Files, Streams and Object Serialization

Creativity: Come up with a program that implements what you've learned about Strings and regular expressions this week to solve a practical problem.

Write a program to search for a particular file in all directories in your Computer.

WEEK 8



RECURSION AND **CAPSTONE PROJECT**

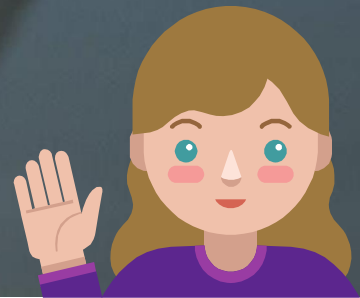
8.1 RECURSION

In this module, we will be studying
Chapter 18: Recursion

We’ll learn to create recursive methods – methods that call themselves and popular recursion examples like factorials and the Fibonacci series.

FINALLY,

A **CAPSTONE PROJECT** which may extend beyond the 8th week depending on the student.



Thanks!

Any questions?

You can contact us using

- lehone4hope@gmail.com

GOOD LUCK AND SEE YOU IN NJORKU