Session Goals

- User should understand why do we need Java Programming Language.
- User should be familiar with Replit
    - Different views of platform
    - How to code, how to run, how reset etc.
- User should be able to write a class and main function in Java easily
- User should understand use case of each data type and be able to initialize/declare variables with correct data types.

Session 1

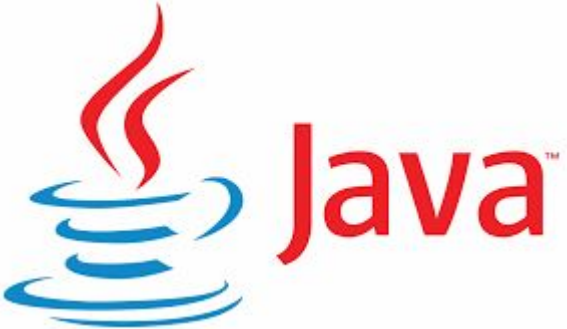
Introduction to Java

Session Agenda

- Introduction to Java programming language
- Compiling and Executing a **Java Program**
  - **Print** statement
  - **Comments**
- Introduction to **Debugging**
  - Compilation errors

What is Java?

Put your thoughts in the chat window



What is Java?

- JAVA was originated at Sun Microsystems Inc., in 1991.
- Java is a widely used, platform-independent, object-oriented **programming language**
- Helps to create modular programs and reusable code.


```java
class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Hello, World!");
    }
}
```

Let’s write our first Java Program on Crio Platform to print Hello World on console

Focus on writing the code and using “Run Code” to get output, there is no assessment yet!

Anatomy of your first Java program

```
1   import java.util.*;
2
3   public class Solution {
4
5       public static void main(String args[]) {
6       }
7   }
8
9
10
```

How does a Java Program work?

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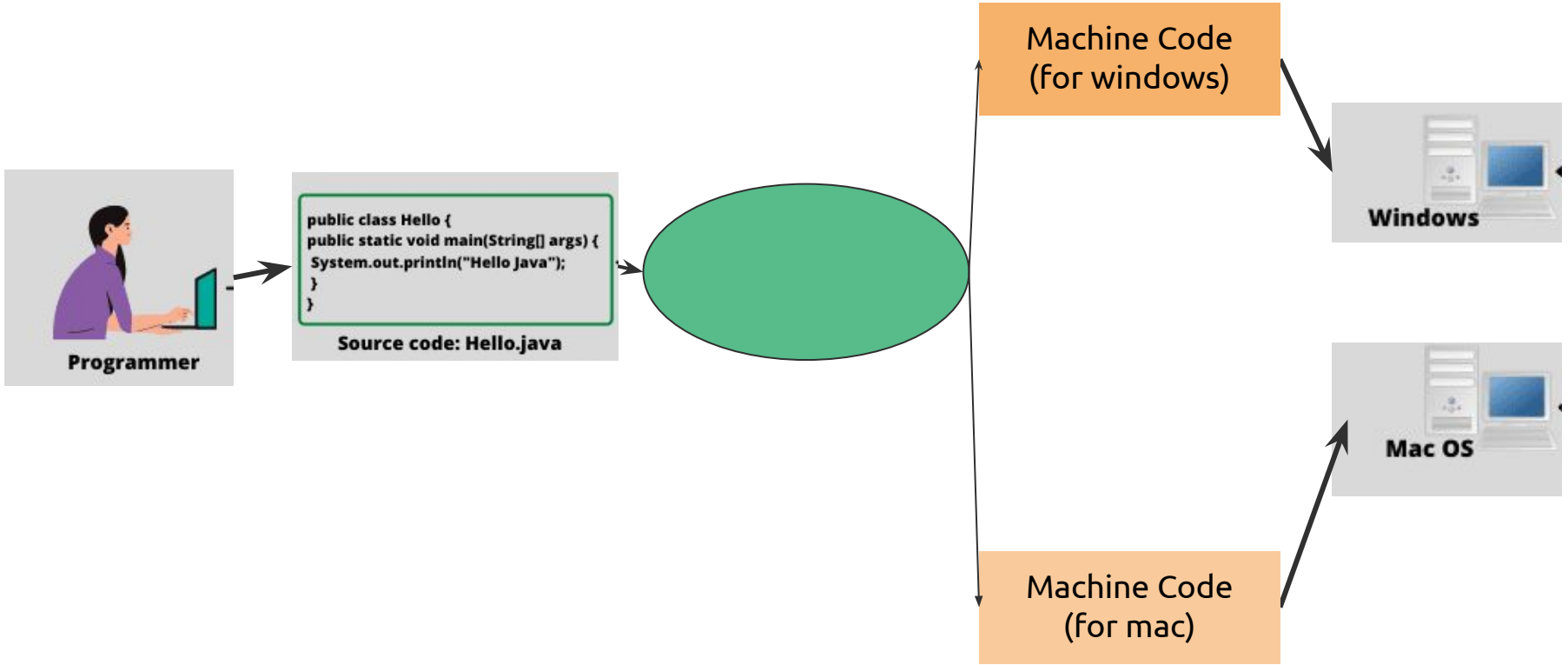
```
public class Hello {
public static void main(String[] args) {
 System.out.println("Hello Java");
 }
}
```

Source code: Hello.java

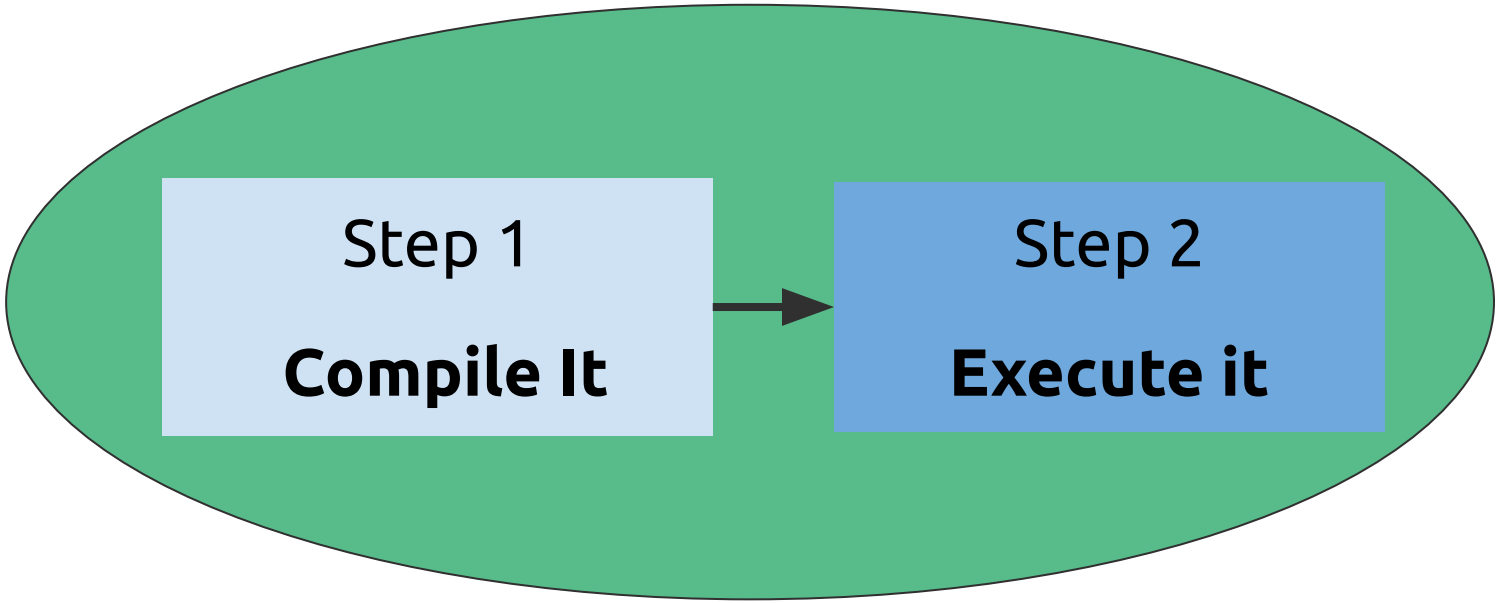
Machine Code
(for windows)

Machine Code
(for mac)

How does a Java Program work?



How does a Java Program work?



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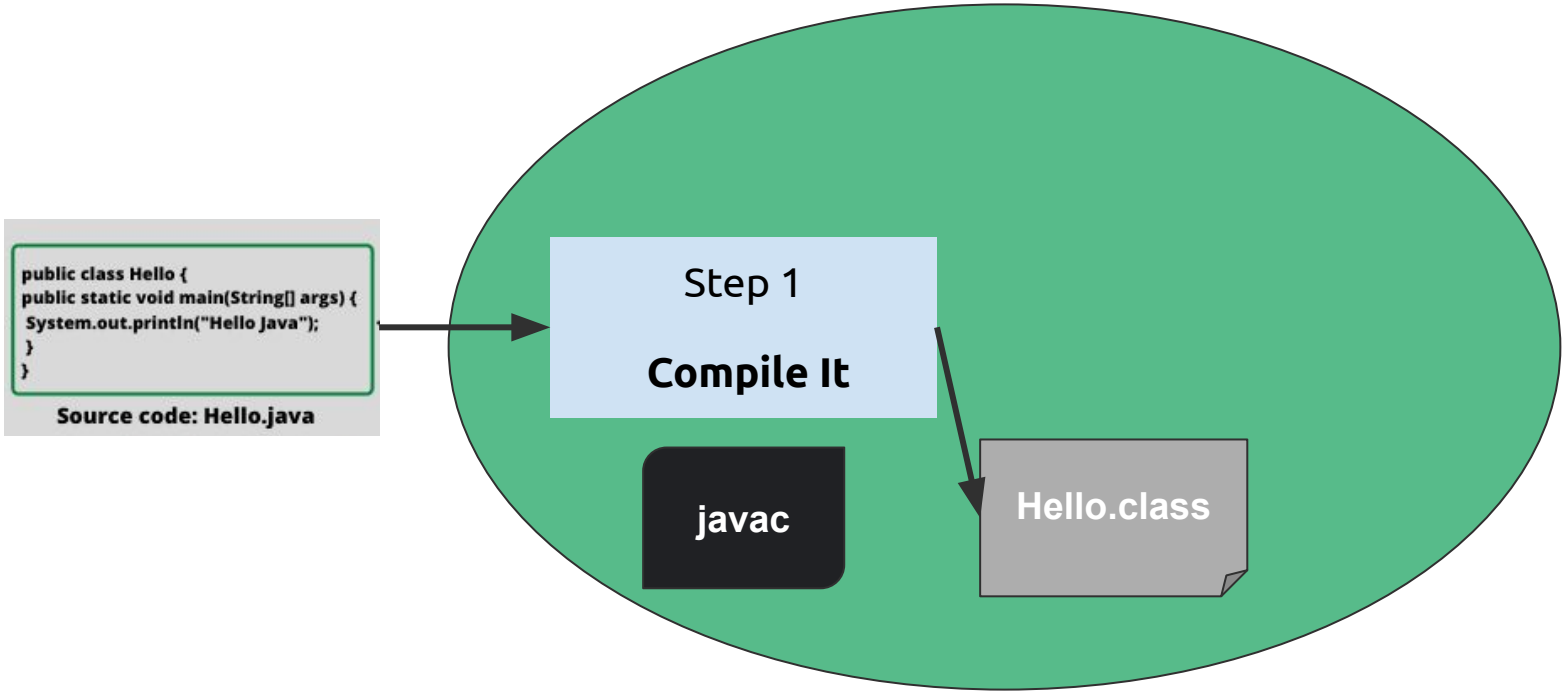
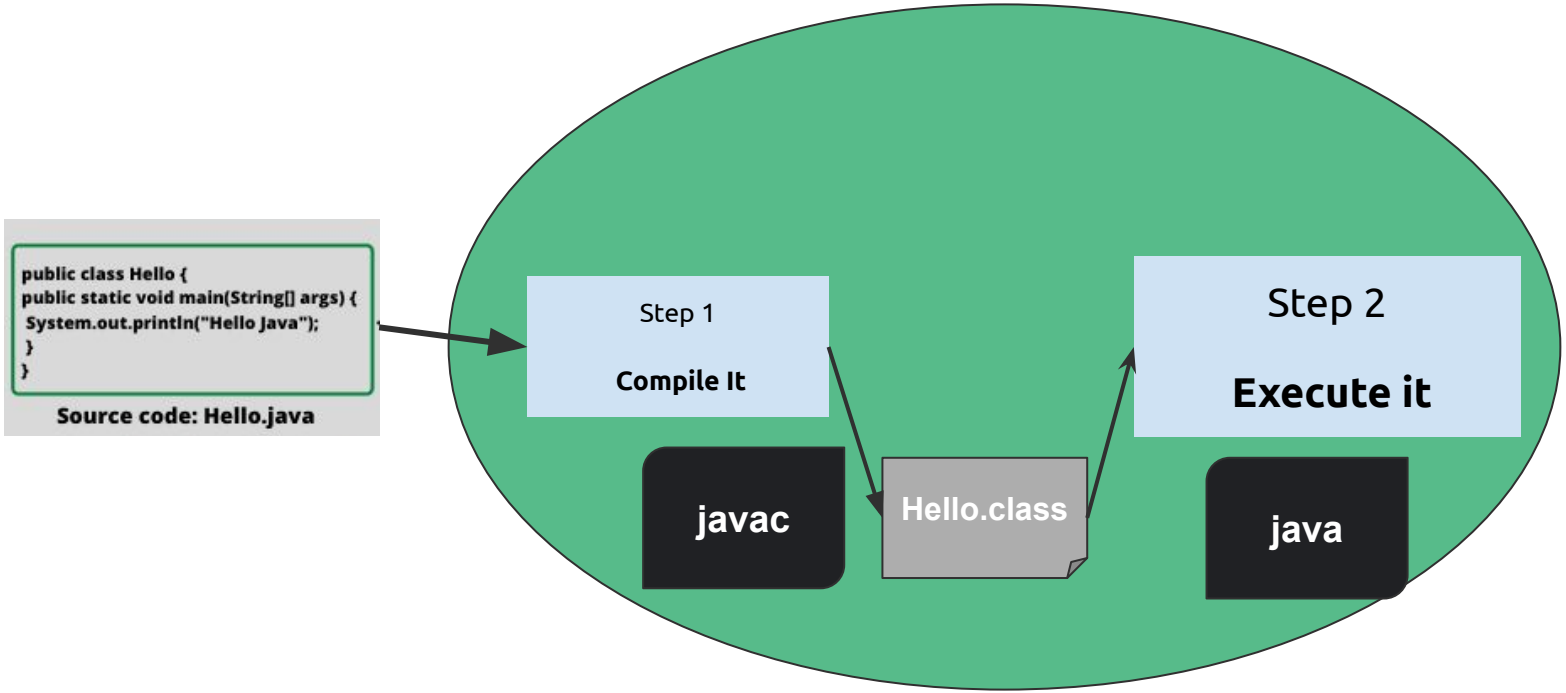
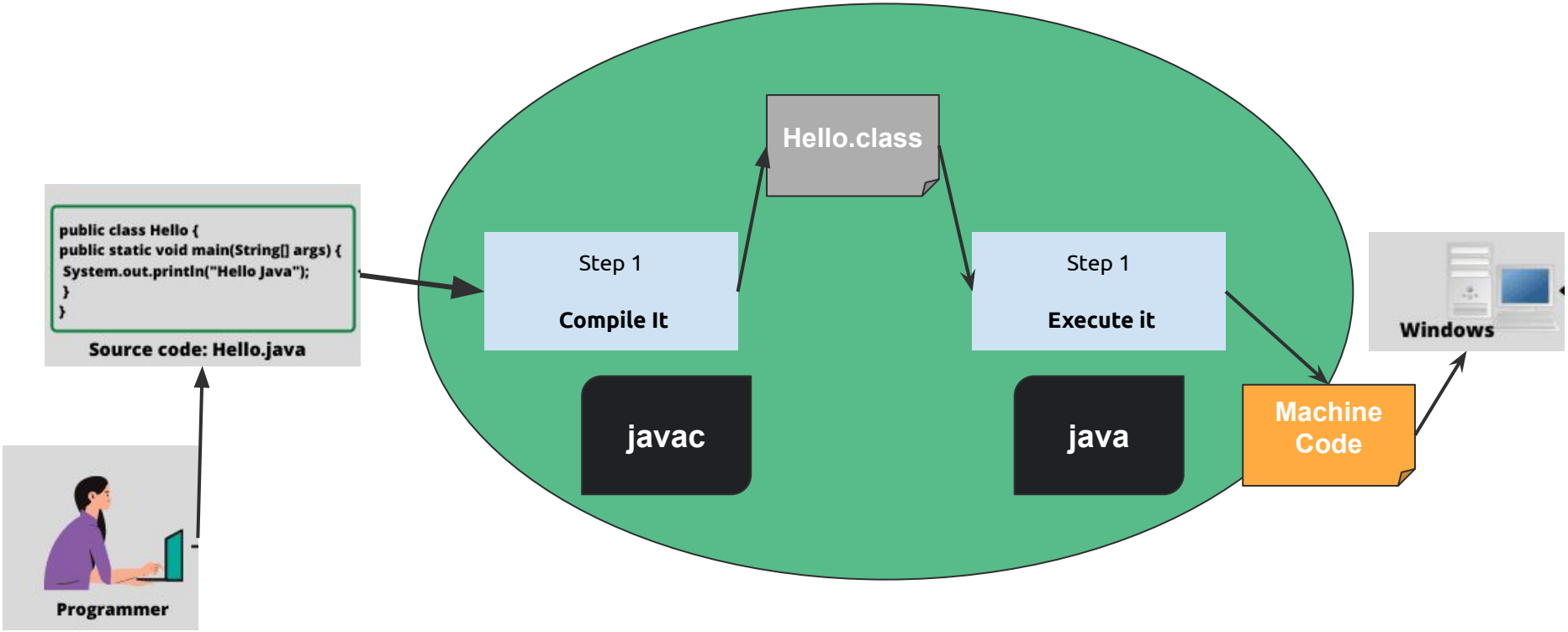


How does a Java Program work?

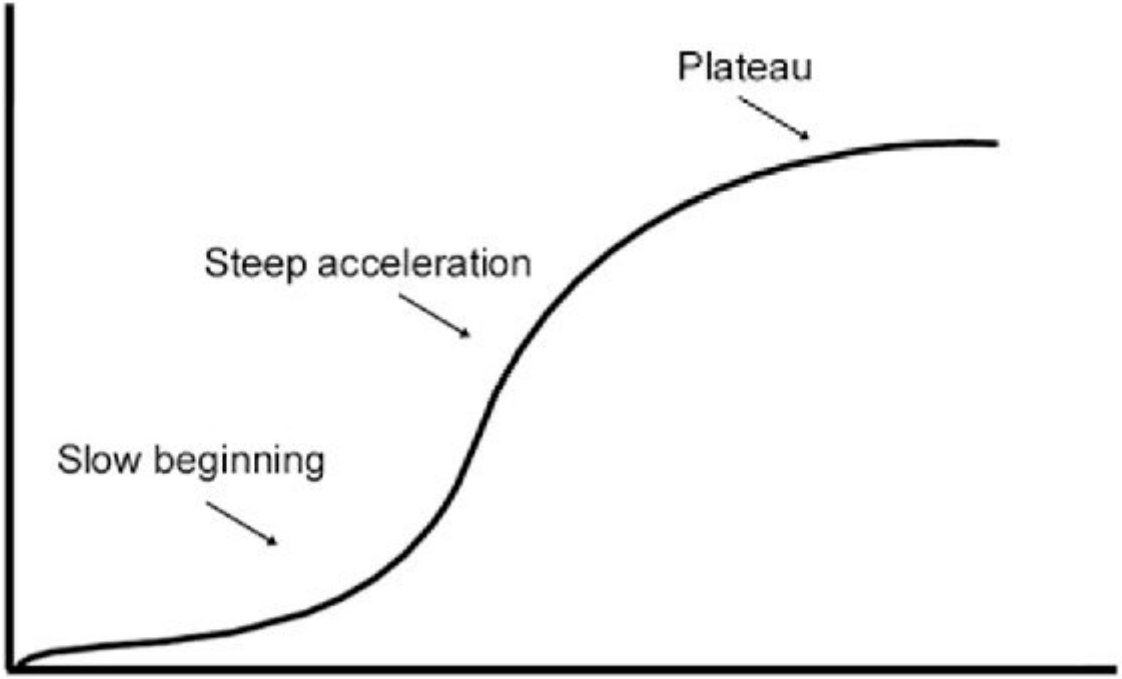


How does a Java Program work?



5 minute break

Reminder - Learning curve



World of Variables & Data Types

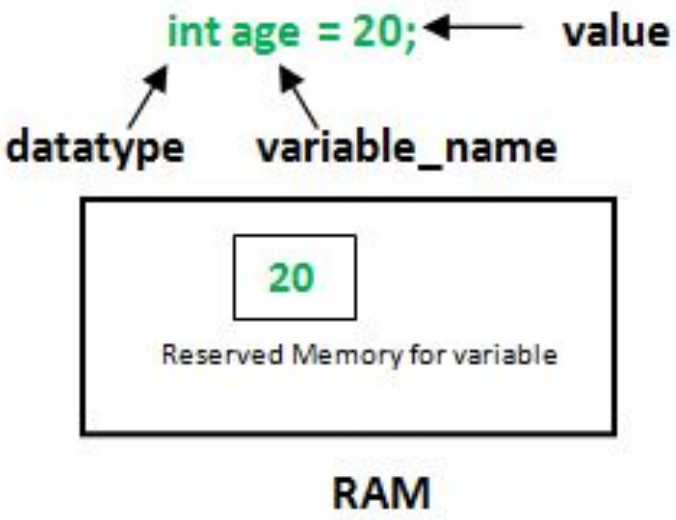
Declaring, assigning value to a variable and printing it. [on replit]

Data Types:

- int
- float
- char
- String
- boolean
- long

- Declaration
- Initialization
- Assignment

World of Variables & Data Types



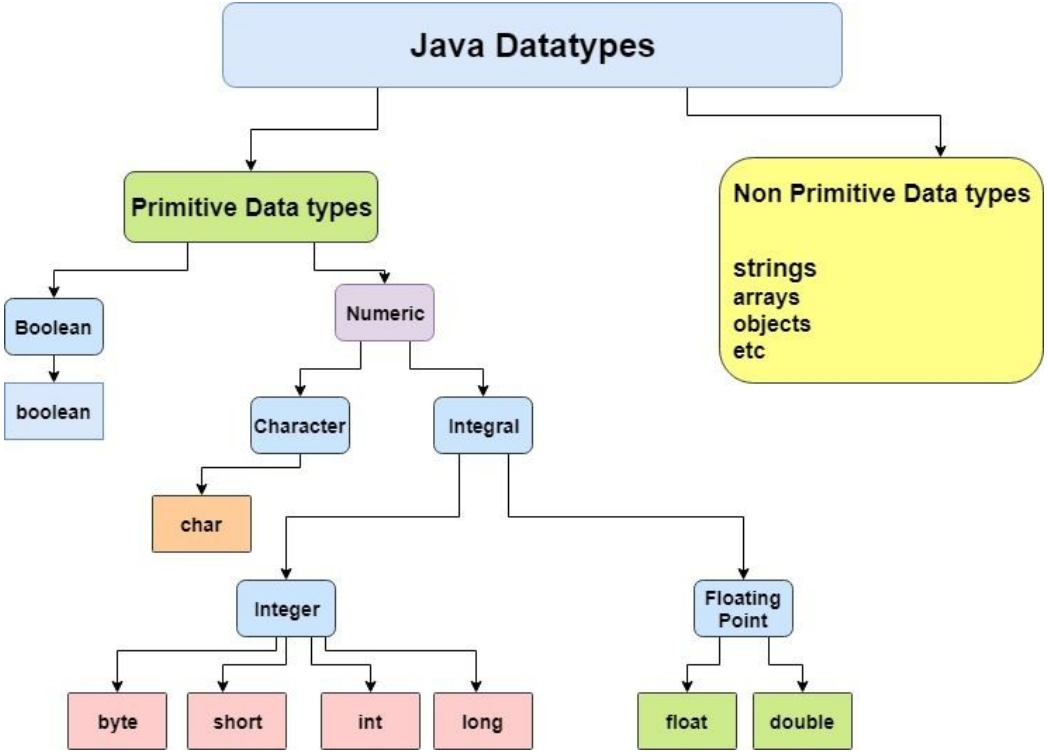
Activity: Sum of Two Numbers

Write a java program to find sum of two numbers. (Focus on writing the code and using “Run Code” to get output, there is no assessment yet!)

Debrief - World of Variables & Data Types

- Variables are instances of specific Data Types.
- They contain *values.*
- You can change these values (assign new values) by assigning new values or modifying existing values.

Debrief - World of Variables & Data Types



Recap - 6 Step Strategy

1. ***Understand the problem*** *(ask questions and get clarity)*
2. ***Design test data/test cases*** *(input and expected output)*
3. ***Derive the solution - solve the problem*** *(write pseudo code)*
4. ***Test the solution*** *(against the test data/case - dry run)*
5. ***Write the program/code*** *(using Java here)*
6. ***Test the code*** *(syntax errors, run time errors, logical errors)*

Activity: Area and Perimeter of Rectangle

Q) Write a java program to find area and perimeter of rectangle.

What will be your approach to the problem? (Step 3)

Quickly put your answers in the chat!

Link (Focus on writing the code and using “Run Code” to get output, there is no assessment yet!)

Activity: Greet on console

Q) Write a program to store name in a variable and then print a greeting message on the console.

Eg: name = “John”
Console output: “Hello John”.

What will be your approach to the problem? (Step 3)

Quickly put your answers in the chat!

Link (Focus on writing the code and using “Run Code” to get output, there is no assessment yet!)

Debugging - Compilation error/Syntax error

- Class name not matching file name
- ; missing
- Matching brackets not present
    - (), [] and {}
- Spelling mistakes for keywords
    - Case sensitive

Session Recap

- Compiling and Executing a **Java Program**
  - **Print** statement
  - **Comments**
- Introduction to **Debugging**
  - Compilation errors

Take home

Note down the issues you face and how you went about resolving them. If you are unable to resolve them, let's discuss that in the next session. Feel free to discuss these with your peers as well.

1. Problem 1, Problem 2, Problem 3 There is no assessment. Click on Submit to finish exercise.
2. Go through these below given video references in sequence (note that these are smaller tutorials within a larger video tutorial, only watch the ones specified, approximate duration is also given). After each video, try to write this code shown and execute on Replit. Print out the values using the print statement you've learnt.

   Note: Don't worry if you do not understand some of these in detail, please note down your questions. **We will be covering all these in detail in the next session and next sprint**.

   a. https://www.youtube.com/watch?v=eIrMbAQSU34&t=1557s - 3 minutes (Variables)
   b. https://www.youtube.com/watch?v=eIrMbAQSU34&t=1747s - 5 minutes (Data Types - Primitives)

Interview Questions

- Answering interview questions is crucial in your journey of applied learning.
- The solutions are hyperlinked to community posts on our platform.
- **Note: The questions have been sourced from previous interviews**
- **Question Set:** https://www.crio.do/learn/magic/java-111-s1-intv-qs/

Keep
Learning,
Keep
Coding.