BEGINNER CODING WORKSHOP

GIRLS DIVERSIFYING TECHNOLOGY+

Welcome!

MATERIALS NEEDED FOR CLASS

GOALS

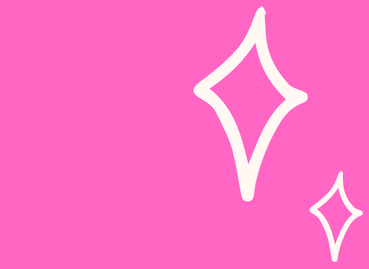
Basic understanding of programming fundamentals and how we apply them in code!

Understanding what code is and why it is useful to us at all!

Java is the programming language we will use for activities and demos

Java

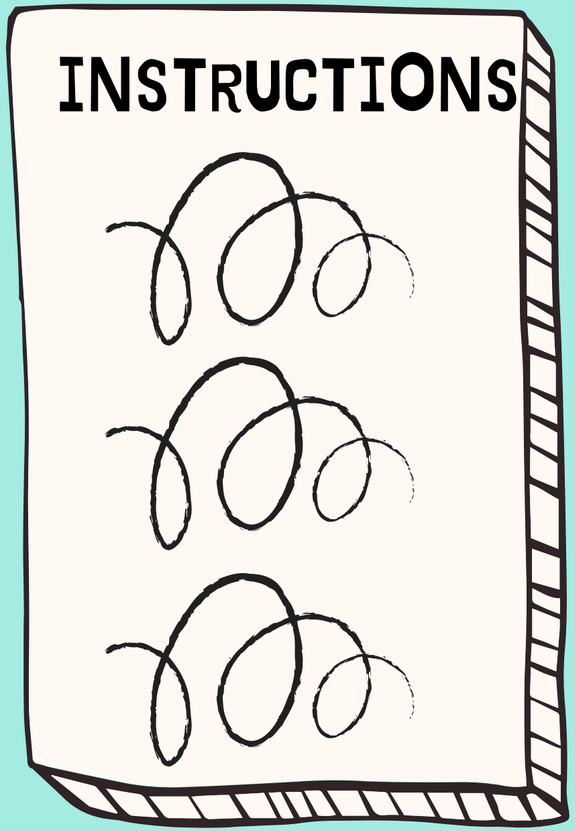
WHAT IS A COMPUTER?

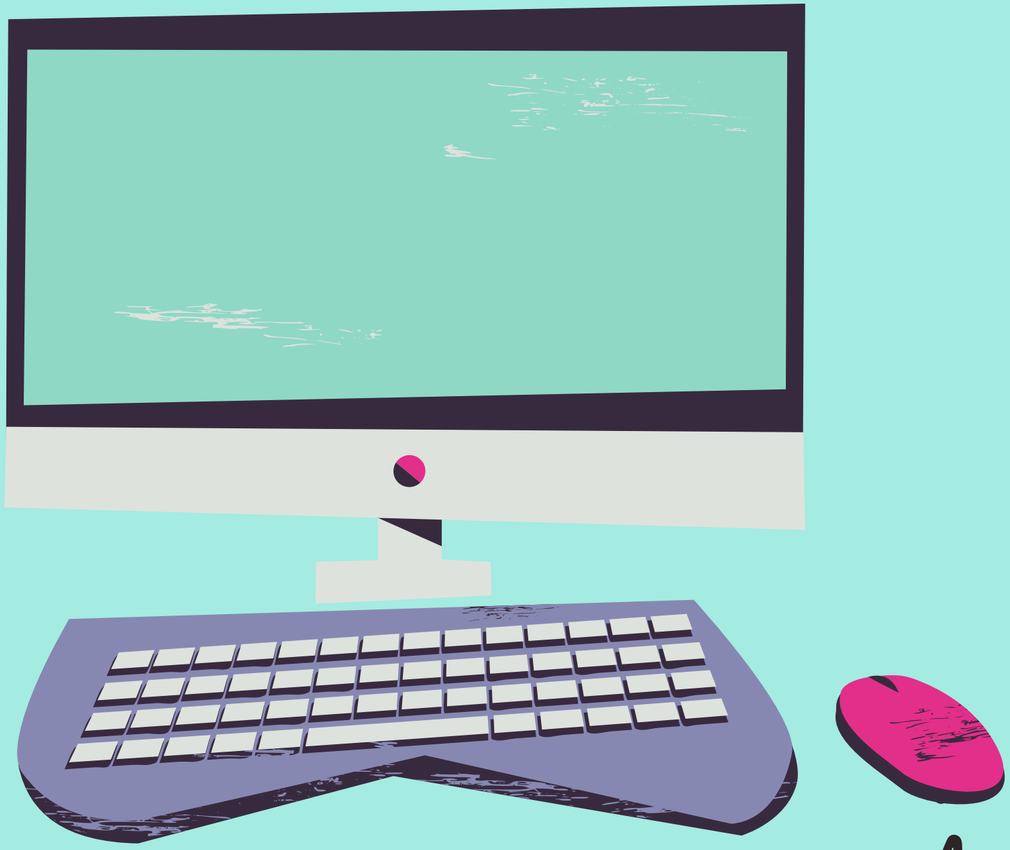


INPUT AND OUTPUT DEVICE

A computer is an electronic device that manipulates information, or data. It has the ability to store, retrieve, and process data.

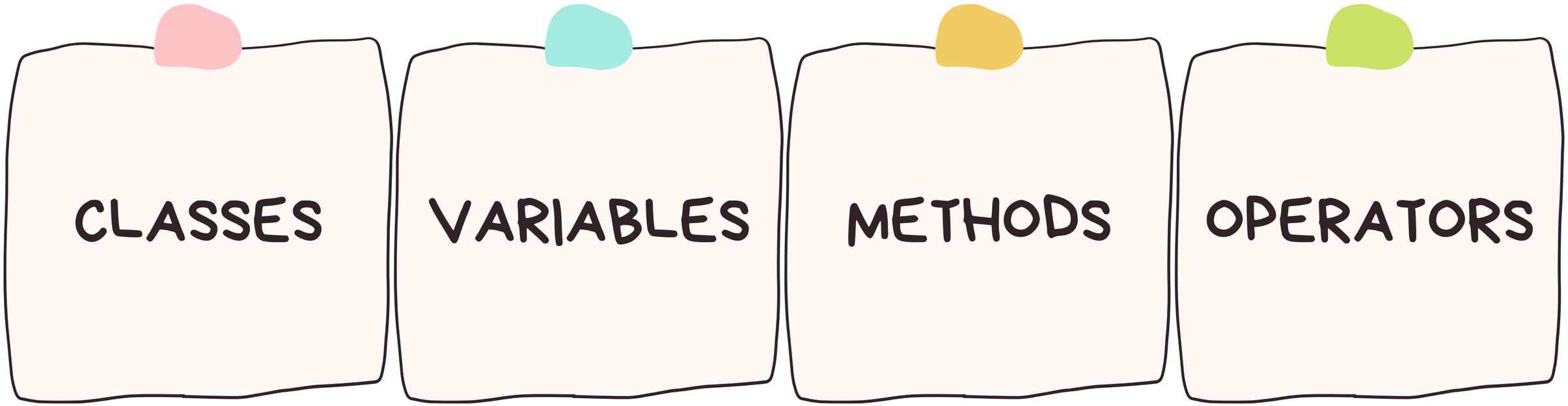
Code and Computers

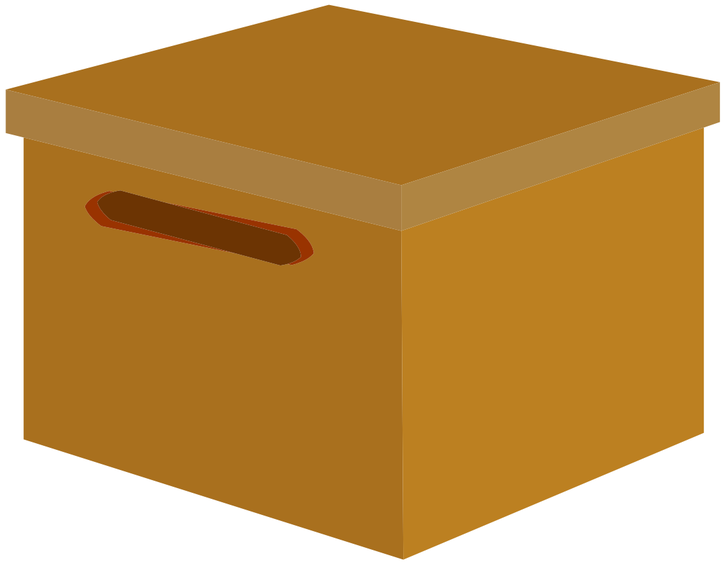




WHAT DO YOU GUYS KNOW ABOUT CODING?

BIG IDEAS WE WILL FOCUS ON





VARIABLES

Variables are essentially containers within classes, they store values to be referenced and manipulated in a computer program. They also provide a way of labeling data with a descriptive name, so our programs can be understood more clearly by the reader and ourselves.

Types of Datatypes

FOR NUMBERS

int -> eg 1

double -> eg 1.72276

float -> eg 1.0

FOR CHARACTERS

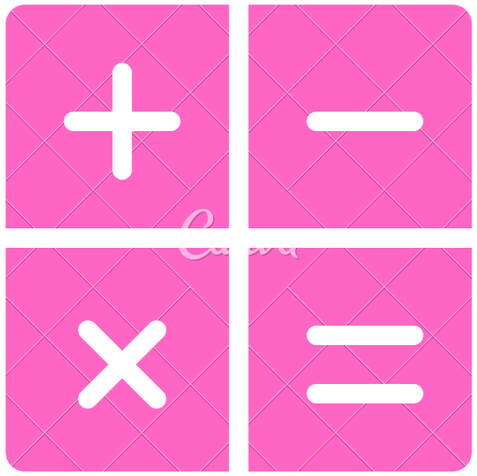
char -> eg name

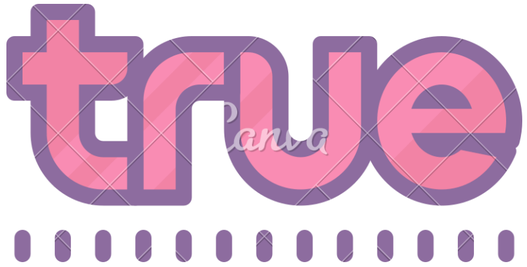
String -> eg my name is

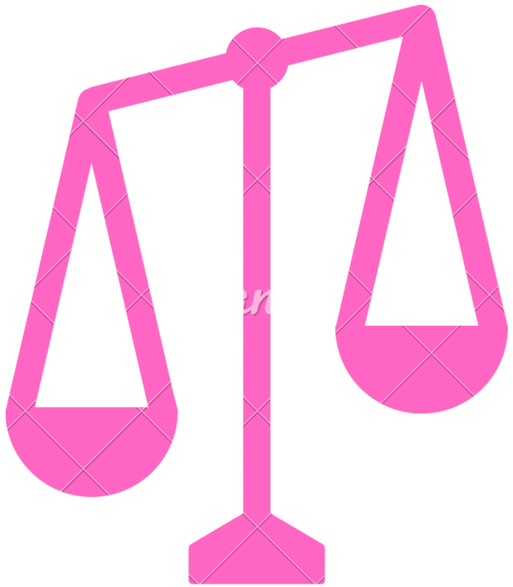
BOOLEAN

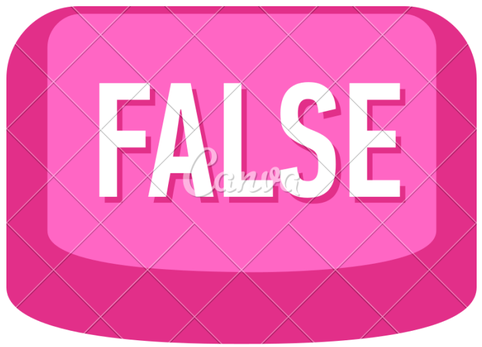
false

true



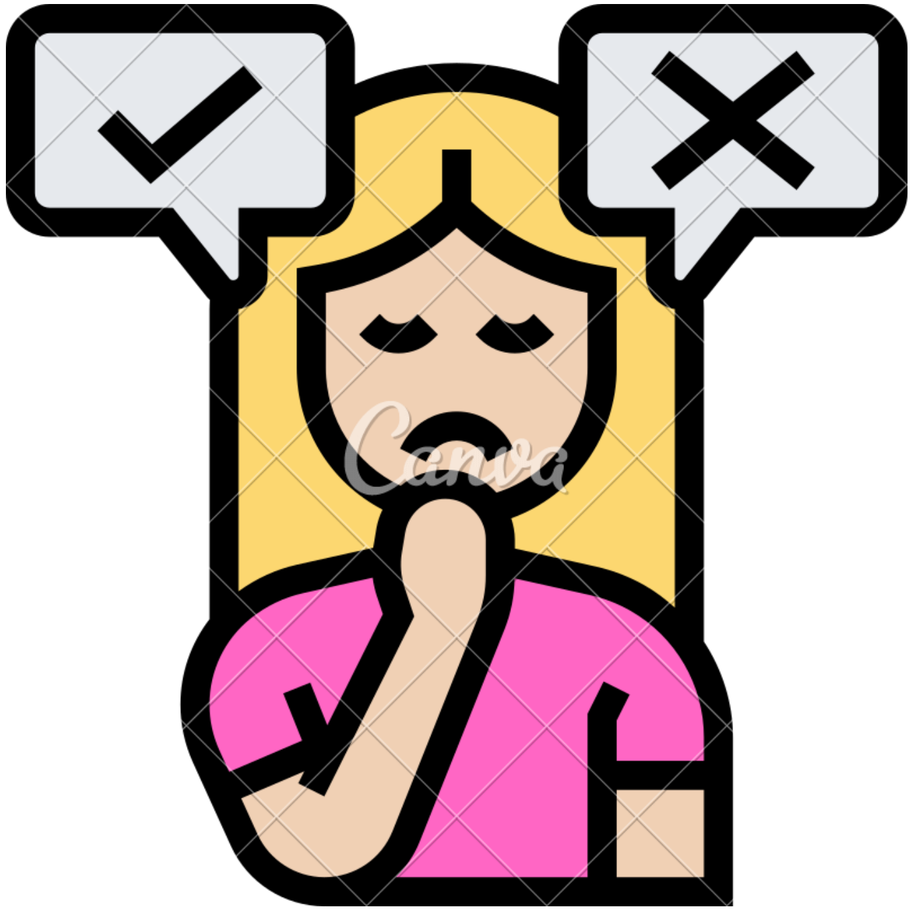






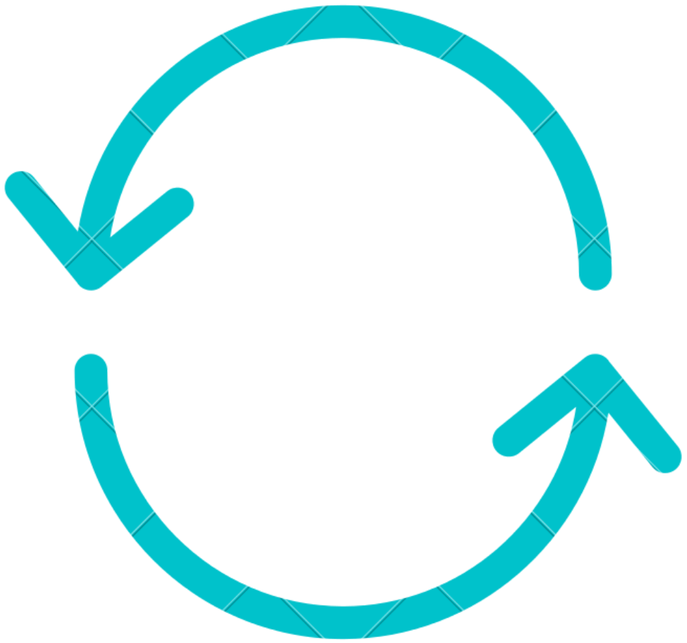
OPERATORS

An operator is a character that represents an action



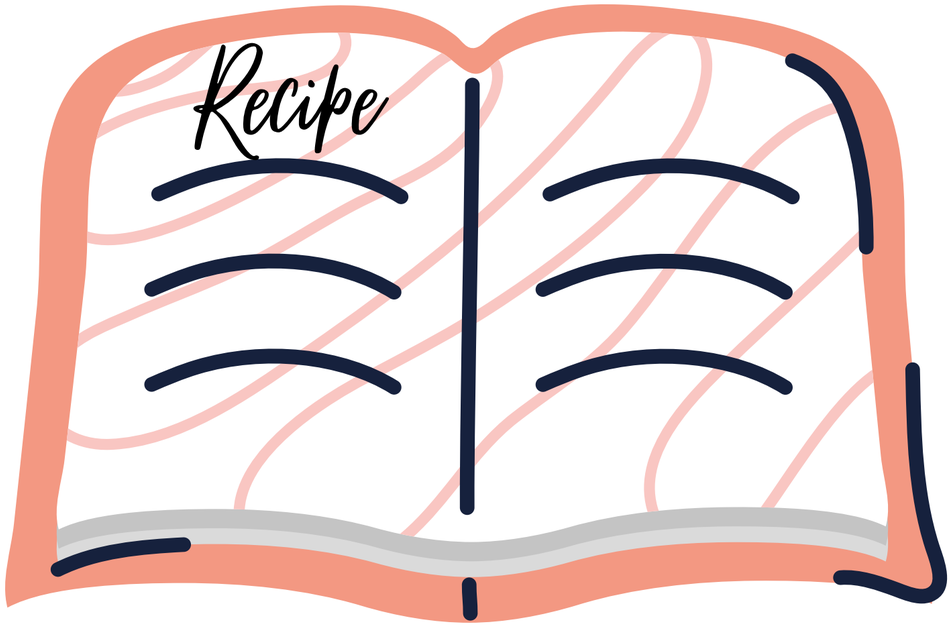
CONDITIONALS

A conditional statement tells a program to execute different actions depending on whether a condition is true or false.



LOOPS

A loop is a sequence of instructions that are continually repeated until a certain condition is reached. Imagine you are in the grocery store looking for bananas, you keep circling through the produce isle till you find the bananas



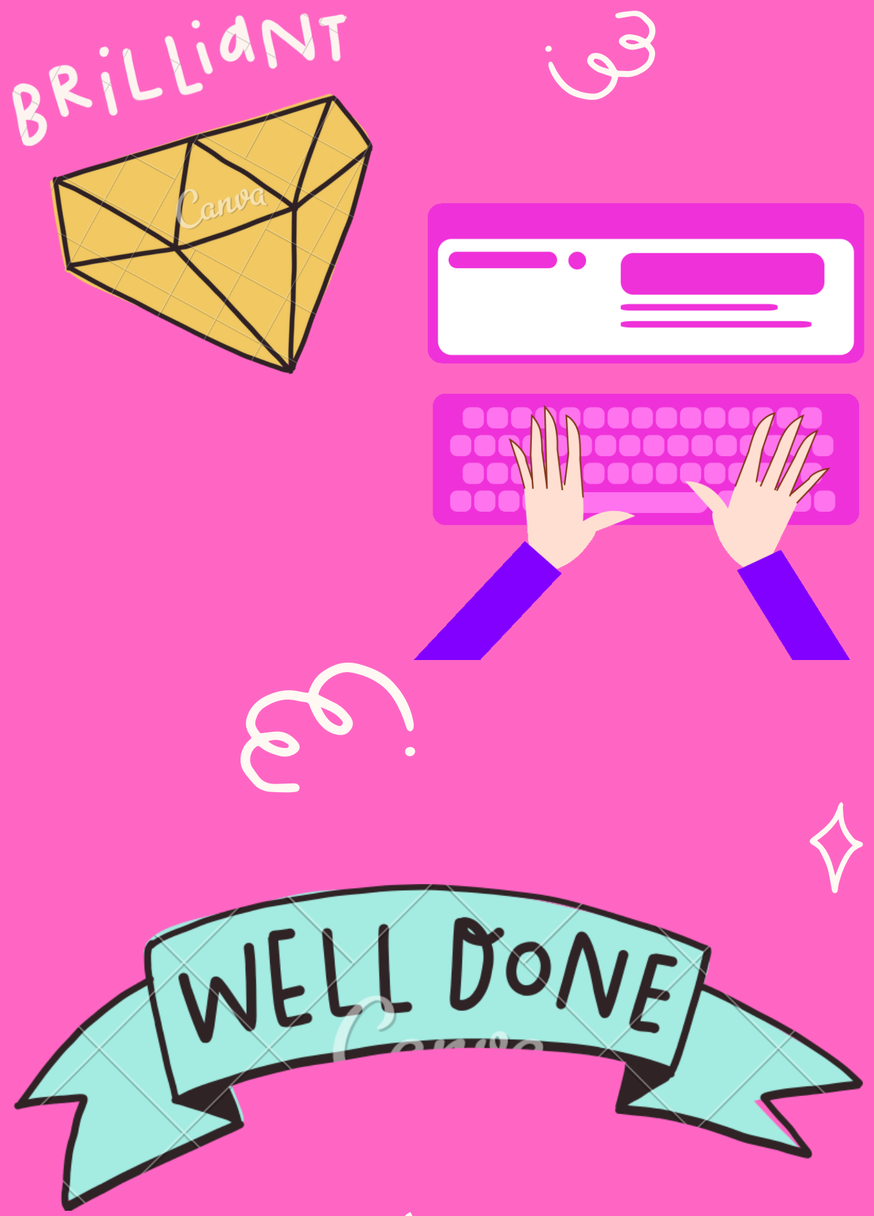
METHODS

A method is a procedure. In cooking you've got a recipe. And that recipe has different instructions eg from one to five. The instructions tell you what to do at that particular point as does a method.

NOW FOLLOW ALONG AND WATCH THE CODE IN ACTION

TIME FOR YOU GUYS TO TRY SOME CODING

https://www.tutorialspoint.com/compile_java_online.php



TASK 1

1. Print "Hello World!" using a print statement in your main method
2. Add a comment to show what big idea you are using for step 3
3. Create a 2 variables in your class
4. Make variables equal to two numbers of your choice
5. Use your variables to complete an operation and store value in variables
6. Print result of operation

Task Answer

```java
public class HelloWorld{

    //Using variables
    public static int var1 =1;
    public static int var2= 3;

    public static void main(String []args){
        System.out.println("Hello World!");
        int result;
        result= var1+var2;
        System.out.println(result);
    }
}
```

TASK 2

1. Identify which of the five big ideas we need to repeat a set of code
2. Create a for loop, which allows you to set a conditional
3. Add the first two variables together
4. Create two new variables under the for loop
5. Create a variable to store the value of the sum of the two new variable
6. Print the new result

Task Answer

```java
public class HelloWorld{

    //Using variables
    public static int var1 =1;
    public static int var2= 3;
    public static int result;

     public static void main(String []args){
        result= var1+var2;
        System.out.println("The result is "+result);

          for(int i=0; i<5; i++) {
              int newNum = 5;
              int newResult = i+newNum;
             System.out.println("The new result is "+newResult);

        }
     }
   }
```

Workshop Recap

- Variables & Datatypes
- Operators
- Conditionals
- Loops
- Methods