Objectives:
1. To understand the relationship between primitive and reference types.
2. To be able to recognize and understand other Java operators such as Increment, Decrement, Assignment, Logical and Rational Operator.
3. To be able to use implicit type conversion and explicit casting.
4. To gain familiarity with string and math operations (methods).
5. To be able to use additional operations associated with the string type.
6. To be able to understand the Boolean Types and Boolean Expressions.

Reading Assignment:
1. Nell/Chip/Mark, Chapter 3 and 4.

Concepts:
1. More Java Operators
2. Type and String Conversion
3. String Operators
4. Boolean Expressions
1. More Java Operators
   o Parentheses – Definition and its applications.
   o Increment Operator – Prefix form, Postfix form.
   o Decrement Operator.
   o Which form to use - Prefix or Postfix?
   o Integral Types – Sizes of Integral Java types.
   o Assignment Operator Syntax – What value is stored and what is stored?
   o Writing a Java expression.
   o Operator Precedence.
   o Operator Associativity.
   o Logical and Rational Operators.
   o More about Floating-Point and Integer Data Types.

2. Type and String Conversion
   o Type Conversion – What happens here? What do we get?
   o Widening and Narrowing Conversion.
   o Type Casting.
   o String Conversion.
   o String Conversion Examples.
   o Primitive vs Reference Types

3. String Operators
   o Definition and examples.
   o Substrings - Using substrings Safely, String methods.
   o Converting Strings to Numbers.
   o Additional String Methods.
   o Getting Number Input.
   o Copying References.
   o Applications with Multiple Class File.

4. Boolean Expressions
   o Expressions in Java – Definition of Expression.
   o The Boolean Type - Definition and Examples.
   o Boolean Expressions – Several kinds of Boolean-valued expressions:
     o A Boolean variable or constant.
     o An arithmetic expression followed by a rational operator followed by an arithmetic expression.
   o Demonstration of Boolean Operators using a Java program.
   o Example of some Boolean Expressions.
Objectives:
1. To become more familiar with Java programming environment.
2. To demonstrate understanding of basic arithmetic expressions.
3. To be able to construct and evaluate expressions that include multiple
arithmetic operators.

Student Activities:
1. Become more familiar with the Java programming environment.
2. Nell Dale, Chapter 3: Lesson 3-2. Write a program to convert the
temperature from Fahrenheit to Celsius and a temperature from Celsius to
Fahrenheit.

Lab Solution:

```java
import java.io.*;
public class Convert {
    public static void main(String[] args) throws IOException {
        BufferedReader inData = new BufferedReader(new InputStreamReader(System.in));
        int fToC; // Place to store Celsius answer
        int cToF; // Place to store the Fahrenheit answer
        System.out.println("Enter a value to be converted from Fahrenheit " + "to Celsius.");
        System.out.println("Enter a value to be converted from Celsius " + "to Fahrenheit.");
        fToC = Integer.parseInt(inData.readLine());
        cToF = Integer.parseInt(inData.readLine());
        System.out.println(fToC + " in Fahrenheit is " + (5 * (fToC - 32)/9) + " in Celsius.");
        System.out.println(cToF + " in Celsius is " + (9 * (cToF/5) + 32) + " in Fahrenheit.");
    }
}
```

Sample Output:
Enter a value to be converted from Fahrenheit to Celsius.
Enter a value to be converted from Celsius to Fahrenheit.
50
40
50 in Fahrenheit is 10 in Celsius.
40 in Celsius is 1049 in Fahrenheit.