Chapter 2

Variables

All Java variables must be identified with unique names called identifiers. Identifiers can be short names (like x and y) or more descriptive names (age, sum, totalVolume). It is recommended to use descriptive names in order to create understandable and maintainable code.

The general rules for constructing names for variables (unique identifiers) are:

- Names can contain letters, digits, underscores, and dollar signs
- Names must begin with a letter
- Names should start with a lowercase letter and it cannot contain whitespace
- Names can also begin with $ and _
- Names are case sensitive ("myVar" and "myvar" are different variables)
- Reserved words (like Java keywords, such as int or boolean) cannot be used as names

2.1 Printing String variable

```
public class MyClass {
  public static void main(String[] args) {
    String name = "John";
    System.out.println(name);
  }
}
```

2.2 Concatenating two string variables

```
public class MyClass {
  public static void main(String[] args) {
    String firstName = "John ";
    String lastName = "Doe";
    String fullName = firstName + lastName;
    System.out.println(fullName);
  }
}
```

2.3 Numeric variables

```
Public class MyClass {
  public static void main(String[] args) {
    int x = 5;
    int y = 6;
    System.out.println(x + y);
    // Print the value of x + y
  }
}
```

2.4 Adding numeric variables

```
public class MyClass {
  public static void main(String[] args) {
    int sum1 = 100 + 50;
    int sum2 = sum1 + 250;
    int sum3 = sum2 + sum2;
    System.out.println(sum1);
    System.out.println(sum2);
    System.out.println(sum3);
  }
}
```

2.5 Floating Point in Java

Floating-point numbers are numbers that have fractional parts (usually expressed with a decimal point). You should use a floating-point type in Java programs whenever you need a number with a decimal, such as 19.95 or 3.1415.

Java has two primitive types for floating-point numbers:

- float: Uses 4 bytes
- double: Uses 8 bytes

Example :

```
public class MyClass {
  public static void main(String[] args) {
    float myNum = 5.75f;
```

```
    System.out.println(myNum);
    double myNum2 = 19.99d;
    System.out.println(myNum2);
  }
}
```