Reading:

1. Deitel & Deitel, Chapter

Objectives:

1. To learn how to use and manipulate strings.

Concepts:

1. Java Strings
2. Concatenation
3. Substrings
4. String Editing
5. String Comparison

Reference:

1. Java Strings

- Strings are sequences of characters, such as “hello.”
- Java does not have a built-in string type.
- Instead, the standard Java library contains a predefined class called `String`.
- Each quoted string is an instance of the `String` class:

Ex.  
```java
String e = ""; // empty string
String tmp = "Temp";
```

2. Concatenation

- Java allows you to use the `+` sign to join (concatenate) two strings together:

Ex.  
```java
String hello = "Hello ";
String world = "World";
String message = hello + world;

System.out.println(message);
```

The output would be: Hello World.

3. Substrings

- A substring is a smaller portion of a larger string.
- You extract a substring from a larger string with method `substring` of class `String`.

Ex.  
```java
String greeting = "Hello";
String s = greeting.substring(0,4);
```

The value of `s` would be the string “Hell.” The first parameter of `substring` is the starting position of the substring. The second parameter is the ending position of the substring. Remember that character positions are zero based, like arrays. So, the first character of a string is at position zero.

4. String Editing

```java
String greeting = "Hello";
int n = greeting.length()  // is 5
greeting = greeting.substring(0,3) + "p!";
```
The result is the string “Help!”  Also note that the length method just returns the size of the string.

5. String Comparison

To test whether or not two strings are equal, use the equals method.

Ex.  s.equals(t);

This returns true if the strings s and t are equal, false otherwise. To test if two strings are identical except for the upper/lower-case letter distinction, use the equalsIgnoreCase method.
Objectives:

1. Demonstrate knowledge of the String class.

Assignment:
Write a program that manipulates the string “Hello World.” Extract each character in the string and store it in an array and print out the result of the array.

Solution:

class StringManip {

public static void main(String[] args) {

    String message = "Hello World";
    char[] array = new char[message.length()];

    for(int i = 0; i < message.length(); i++) {
        array[i] = message.substring(i, i);
        System.out.println(array[i]);
    }
}
}