

# 14 Strings, Characters and Regular Expressions

## Objectives

In this chapter you'll:

- Create and manipulate immutable character-string objects of class `String`.
- Create and manipulate mutable character-string objects of class `StringBuilder`.
- Create and manipulate objects of class `Character`.
- Break a `String` object into tokens using `String` method `split`.
- Use regular expressions to validate `String` data entered into an application.

## Outline

1. [14.1 Introduction](#)
2. [14.2 Fundamentals of Characters and Strings](#)
3. [14.3 Class String](#)
  1. [14.3.1 String Constructors](#)
  2. [14.3.2 String Methods `length`, `charAt` and `getChars`](#)

- 3. [14.3.3 Comparing Strings](#)
- 4. [14.3.4 Locating Characters and Substrings in Strings](#)
- 5. [14.3.5 Extracting Substrings from Strings](#)
- 6. [14.3.6 Concatenating Strings](#)
- 7. [14.3.7 Miscellaneous String Methods](#)
- 8. [14.3.8 String Method valueOf](#)

#### 4. [14.4 Class StringBuilder](#)

- 1. [14.4.1 StringBuilder Constructors](#)
  - 2. [14.4.2 StringBuilder Methods length, capacity, setLength and ensureCapacity](#)
  - 3. [14.4.3 StringBuilder Methods charAt, setCharAt, getChars and reverse](#)
  - 4. [14.4.4 StringBuilder append Methods](#)
  - 5. [14.4.5 StringBuilder Insertion and Deletion Methods](#)
- 
- 5. [14.5 Class Character](#)
  - 6. [14.6 Tokenizing Strings](#)
  - 7. [14.7 Regular Expressions, Class Pattern and Class Matcher](#)

- 1. [14.7.1 Replacing Substrings and Splitting Strings](#)
- 2. [14.7.2 Classes Pattern and Matcher](#)
- 3. [14.8 Wrap-Up](#)

- 1. [Summary](#)
- 2. [Self-Review Exercises](#)
- 3. [Answers to Self-Review Exercises](#)
- 4. [Exercises](#)
- 5. [Special Section: String-Manipulation Exercises](#)

6. Special Section: Challenging String-Manipulation Projects

7. Making a Difference