Cryptography: Keeping Information Secret Module

In this module, you will learn about the basics of cryptography, the science of keeping information private and secure. You will learn about simpler cryptographic systems, which were used from the Roman Empire through the early 1900s. You will learn how to implement these ciphers, as well as how to break them. To solve these problems, you will work more with processing Strings, but also learn about arrays—a way to store an indexable sequence of elements.

By the end of this module, you will be able to:

- Combine Strings using concatenation;
- Build Strings within a Java program using StringBuilder;
- Use arrays to store and manipulate collections of data;
- Refactor your programs for improved organization using object-oriented principles; and
- Practice effective algorithm design.

Lecture Slides

Implementing the Caesar Cipher

- BriefHistoryOfCryptography.pdf
- ImplementingCaesarIntroduction.pdf
- CreatingAndManipulatingStrings.pdf
- CountingLoops.pdf
- CharacterClass.pdf
- ImplementingCaesarAlgorithm.pdf
- ImplementingCaesarSummary.pdf

Breaking the Caesar Cipher

- BreakingCaesarIntroduction.pdf
- Arrays.pdf
- RandomNumbersAndArrays.pdf
- CountingWithArrays.pdf
- BreakingCaesarAlgorithm.pdf
- BreakingCaesarSummary.pdf

Object Oriented Caesar Cipher

- ObjectOrientedIntroduction.pdf
- RewritingWithEncapsulation.pdf
- Fields.pdf
- Visibilty.pdf
- Constructors.pdf
- ObjectOrientedSummary.pdf

More Course Resources

http://www.dukelearntoprogram.com/course3/index.php - This website of programming resources contains pages for each course in the Duke Java Programming specialization. The link above for this course is where you will go to:

- Download the custom version of the BlueJ environment;
- Find project resources, such as example code from the lecture videos;
- Download images and data files for the programming exercises; and
- See documentation for the custom classes developed for this course.

Mark as completed