

Week 01 - Java Basics

Topics covered in this week

- introduction to objects
- classes, methods
- basic syntax & controlling execution
 - operators
 - variables
 - primitives vs. objects
 - loop control
 - decision making
 - arrays
 - switch case
- package syntax (structure)
- jshell
- java doc and it's role

Reading material

- <https://www.java-made-easy.com/java-objects.html>
- <https://data-flair.training/blogs/java-data-types/>
- <https://data-flair.training/blogs/basic-java-syntax/>
- https://www.tutorialspoint.com/java/java_basic_operators.htm
- <https://www.java-made-easy.com/for-loop.html>
- <https://www.java-made-easy.com/if-statement.html>
- <https://docs.oracle.com/javase/9/jshell/introduction-jshell.htm>
- https://www.tutorialspoint.com/java/java_documentation.htm

Homework

Difficulty	Problem	Notes
EASY	<p>Write a small application that reads a list of personalities from a csv file (Firstname, Lastname, dob, dod) and stores the information in objects. The application should filter out duplicated entries and output the list of objects to the console in a human readable manner:</p> <p>"Firstname Lastname (dob-dod)".</p>	<p>The code that reads the lines from the file and the input file are provided</p> <p>See provided source.</p> <p>Solution: week1p1.zip.</p>
EASY	<p>Write a program that prints values from 1 to custom <i>n</i> number, provided as an argument to the application. Print the <i>PRIME</i> keyword near each prime number. (1, 2-<i>PRIME</i>, 3-<i>PRIME</i>, 4, ..., 100).</p>	<p>Run from the command line and provide the argument <i>n</i>.</p> <p>Solution: week1p2.zip.</p>
EASY	<p>Create two methods that both takes an int as an argument and returns a String object representing the binary representation of the integer. Eg. given the argument 42, it should return "101010". The first method should calculate the binary representation manually, and the other should use the functionality available in the Java class libraries. The number should be supplied as argument to the main method.</p>	<p>Solution: week1p3.zip</p>
HARD	<p>The numbers 545, 5995 and 15151 are the three smallest palindromes divisible by 109. There are nine palindromes less than 100000 which are divisible by 109.</p> <p>How many palindromes less than max long are divisible by 10000019?</p>	