

Topic 6 – Primitive Types, Expression Evaluation

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corresponding to portions of Chapters 1-5 of JBA

For topics 1-5 that we covered up to this point, we focused on certain sections of Chapters 1-5 of JBA. Now we go back and look more closely at the sections that we glossed over earlier.

Chapter 1

- sec 1.2.2 – we have worked with the int data type many times – go back and read about the other data types used to represent integers.
- sec 1.2.4, 1.2.5 – this material provides conceptual background to object creation
- fig 1.13 is really key
- read sec 1.3 carefully. We have already used the infix operators (addition, subtraction, multiplication, division, remainder); we will start using the pre/postfix operations and learn more about what happens with the operands are of different types (esp sec 1.3.3, in particular fig 1.18). Re-read PT 3.2 (p.107) and be clear about the difference between expressions in which *automatic promotion* has been performed and methods that have been *overloaded*.
- IMD 1.7-1.8; PT 1.10-1.11 – important!

Chapter 3

- apply what you know and have a look again at the calculation of the monthly payment for a mortgage. Was it necessary to write:
`denominator = 1. - 1. / denominator;`
Would it have been equivalent to write:
`denominator = 1 - 1 / denominator;`
(notice in the first version, the literals are doubles whereas in the second they are ints– what, if anything, happens with respect to automatic promotion?)

Chapter 5

- 5.1.3 focuses on relational expressions (which stand in contrast to mathematical expressions, which were the primary topic of Chapter 1). Relational expressions evaluate to a boolean value (true/false), whereas mathematical expressions evaluate to a numerical value.
- Fig 5.4 (p. 181) is for boolean operators just as fig 1.15 (p.27) is for arithmetic operators; you should be able to combine the two kinds of operators into single expressions and know the order in which the operators will be applied (along with any auto-promotion that will be triggered)