Esc101
Fundamentals of Computing
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Lecture 05
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http://www.iitk.ac.in/esc101/

Summary from Previous Lecture

- The Java String class
- Static variables, static methods
- The Java Math class
- Notion of a library
- Using java without bluej (javac, kedit)
  - Notion of a “main” method
  - Using the System.out object

Expressions in Java

- Three parts: operators, operands, result
- Examples involving literals:
  - 2+3, 28/6, 28.0/6, 6+9+8.0
  - “abc” + “123”
- Examples involving variables:
  - x/y, x1+y2-z3
- Type of result is the type of operand with widest range
  - Can use type cast; e.g. (int)x + 6, (int)(x + 6)

More on Expressions

- Evaluation is from left to right, subject to precedence:
  - Examples: 2+3*4 is 14, 6.0/3.0/2.0 is 1
- Can use () to override precedence
  - Examples: (2+3)*4 is 20, 6.0/(3.0/2.0) is 4
  - *When in doubt, use ()*
- These are arithmetic operators: +, -, *, /, %
  - % gives remainder on integer division
- Method calls can be used in expressions:
  - Example: getCurrVal()*2

Other Operators

- Relational: <, >, <=, >=
- Equality: ==, !=
- Examples:
  - x < y, x == 7, 7 != 9 (result type is boolean)
- Logical: &, |, ^, !, &&, || (boolean operands)
- Bit manipulation: &, |, ^, ! (integer operands)
- Shift operators: <<, >>, >>> (integer operands)
- Some examples... (Expr.java)

Summary and Next Class...

- Today:
  - Expressions, operators
- Next class:
  - if-else, while, for
  - More loops, switch