

Constants and Variables

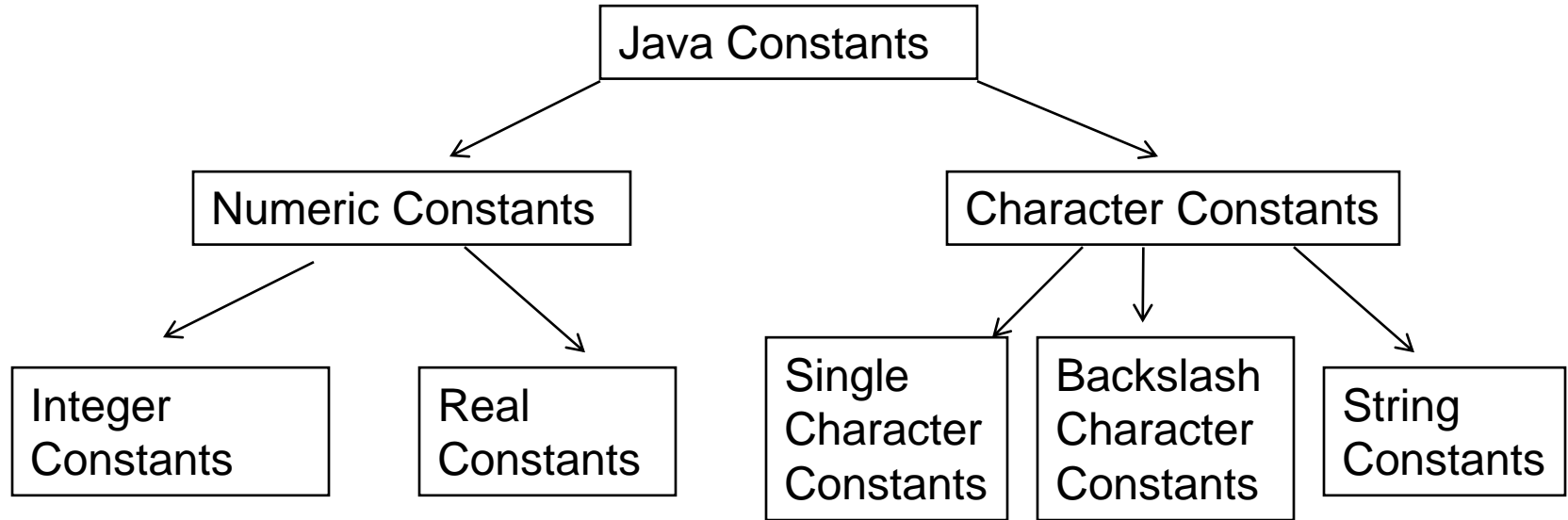
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Constants

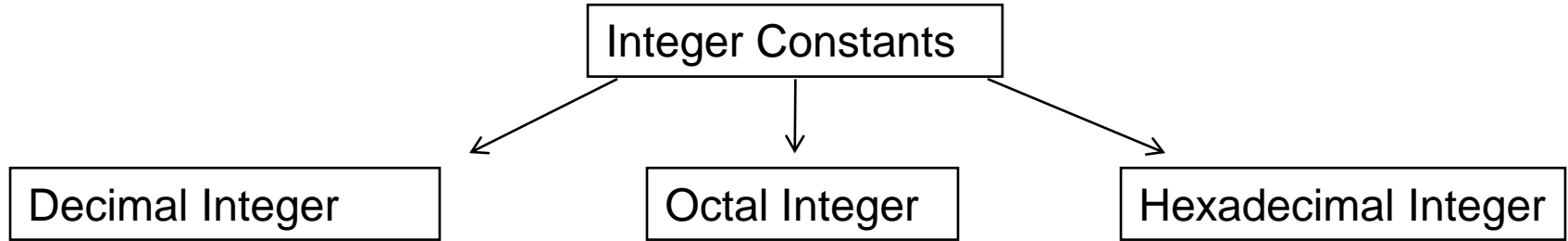
- ✓ Fixed Values that do not change during the execution of the program

Constants



Integer Constants

- ✓ Sequence of Digits
- ✓ Whole Number



Decimal Integer

- ✓ Sequence of Digits from 0 to 9
- ✓ Preceded by an optional minus sign
- ✓ Embedded spaces, Commas, Non-digits characters are not allowed

- ✓ Examples

123	-123	0	654321	Valid
15 216	20.234	\$55		Invalid

Octal Integer

- ✓ Sequence of Digits from 0 to 7 with a leading 0 (Zero)
- ✓ Examples

023 0 0435 0555 Valid

0999 0866 Invalid

Hexadecimal Integer

- ✓ Sequence of Digits from 0 to 9 with a leading 0x or 0X
- ✓ May contain the alphabets from A to F or from a to f
- ✓ Examples

0x2 0X9F 0xbcd Valid

0x9Z 0XAX Invalid

Real Constants

- ✓ Represents Quantities that varies continuously
- ✓ Distances, Temperature, Prices
- ✓ Numbers with Fractional parts
- ✓ Floating-Point Constants have decimal points

- ✓ Examples

12.8

-126.7

.0

-909.67

Valid

Real Constants

- ✓ Can be expressed in Exponential form
Mantissa e Exponent
- ✓ Mantissa can be either Decimal notation or Integer
- ✓ Exponent must be an Integer with Optional + or – Sign
- ✓ The letter e can be either E or e

0.6e4 -12e-7 1.5e+5 -9.6E-1 Valid

7500000000 may be represented as 7.5e9 or 75e8

Character Constants

- ✓ Single Character Constants

- ✓ Specified within a pair of Single Quotes

'h' '0' ' ' ' ;'

- ✓ String Constants

- ✓ Specified within a pair of Double Quotes

"h" "0216" "?jkj[]{}" "7+8"

- ✓ Backslash Character Constants

✓ '\n' '\b' '\t' '\f' '\r' '\\ ' '\ ' '\ "'

Variables



Variables

- ✓ Name given for the memory location to store a value
- ✓ Can take different values at run time
- ✓ Must be meaningful
- ✓ Must follow the following Rules
 - ✓ Must not begin with a Digit
 - ✓ May contain Underscore
 - ✓ Can be of any Length
 - ✓ Can have Dollar symbol
 - ✓ Case Sensitive
 - ✓ Must not be a Keyword

Variables

Examples

average

Max_Score

total_VAT

Thank you

