|  |  |
| --- | --- |
| **Expression** | **Alternative** |
| i = i + 1 | i++ and ++i |
| n = n + 1 | n++ and ++n |
| count = count + 1 | count++ and ++count |
| i = i - 1 | i-- and --i |
| n = n - 1 | n-- and --n |
| count = count - 1 | count-- and --count |

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| **Specifier** | **Number** | **Display** | **Comments** |
| %2d | 3 | ۸3 | Number fits in field |
| %2d | 43 | 43 | Number fits in field |
| %2d | 143 | 143 | Field width ignored |
| %2d | 2.3 | Compiler Dependent | Floating-point number in an integer field |
| %5.2f | 2.366 | ۸2.37 | Field of 5 with 2 decimal digits |
| %5.2f | 42.3 | 42.30 | Number fits in field |
| %5.2f | 142.364 | 142.36 | Field width ignored buy fractional specifier is used |
| %5.2f | 142 | Compiler Dependent | Integer in a floateing-point field |

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| **Rational Operator** | **Meaning** | **Example** |
| < | less than | age < 30 |
| > | greater than | height > 6.2 |
| <= | less than or equal to | taxable <= 20000 |
| >= | greater than or equal to | temp >= 98.6 |
| == | equal to | grade == 100 |
| != | not equal to | number != 250 |

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| **Sample comparisons of ASCII Characters** | | |
| **Expressions** | **Value** | **Interpretation** |
| 'A' > 'C' | 0 | false |
| 'D' <= 'Z' | 1 | true |
| 'E' == 'F' | 0 | false |
| 'g' >= 'm' | 0 | false |
| 'b' != 'c' | 1 | true |
| 'a' == 'A' | 0 | false |
| 'B' < 'a' | 1 | true |
| b' > 'Z' | 1 | true |

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| **The AND (&&) Operator** | | |
| If expressionOne is: | And expressionTwo is: | Then EpressionOne && ExpressionTwo is: |
| true (that is, non-0) | true (that is, non-0) | true (1) |
| true (that is, non-0) | false (that is, 0) | false (0) |
| false (that is, 0) | true (that is, non-0) | false (0) |
| false (that is, 0) | false (that is, 0) | false (0) |

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| **The OR (||) Operator** | | |
| If expressionOne is: | And expressionTwo is: | Then EpressionOne && ExpressionTwo is: |
| true (that is, non-0) | true (that is, non-0) | true (1) |
| true (that is, non-0) | false (that is, 0) | true (1) |
| false (that is, 0) | true (that is, non-0) | true (1) |
| false (that is, 0) | false (that is, 0) | false (0) |

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| **Expression** | **Value** | **Interpretation** |
| a > b | 1 | true |
| I == j || a < b ||complete | 0 | false |
| a/b > 5 && I <= 20 | 1 | true |

|  |  |
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| **Operator** | **Associativity** |
| ! , unary - , + + , - - | right to left |
| \* , / , % | left to right |
| + , - | left to right |
| < , <= , > , >= | left to right |
| == , != | left to right |
| && | left to right |
| || | left to right |
| +=, -=, \*=, /= | right to left |

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| **Expression** | **Equivalent Expression** | **Value** | **Interpretation** |
| i + 2 == k - 1 | ( i + 2 ) == ( k - 1 ) | 0 | false |
| 3 \* i - j < 22 | (( 3 \* i ) - j ) < 22 | 1 | true |
| i + 2 \* j > k | ( i + ( 2 \* j )) > k | 1 | true |
| k + 3 <= - j + 3 \* i | ( k + 3 ) <= (( -j) + ( 3 \* i )) | 0 | false |
| 'a' + 1 == 'b' | ( 'a' + 1 ) == 'b' | 1 | true |
| key - 1 > 'p' | ( key - 1 ) > 'p' | 0 | false |
| key + 1 == 'n' | ( key + 1) == 'n' | 1 | true |
| 25 >= x + 4.0 | 25 >= ( x + 4.0 ) | 0 | false |