|  |  |  |
| --- | --- | --- |
| **Arithmetic operators in Python** | | |
| **Operator** | **Meaning** | **Example** |
| + | Add two operands or unary plus | x + y +2 |
| - | Subtract right operand from the left or unary minus | x - y -2 |
| \* | Multiply two operands | x \* y |
| / | Divide left operand by the right one (always results into float) | x / y |
| % | Modulus - remainder of the division of left operand by the right | x % y (remainder of x/y) |
| // | Quotient / Floor division - division that results into whole number adjusted to the left in the number line | x // y |
| \*\* | Exponent - left operand raised to the power of right | x\*\*y (x to the power y) |

|  |  |  |
| --- | --- | --- |
| **Comparision operators in Python** | | |
| **Operator** | **Meaning** | **Example** |
| > | Greater that - True if left operand is greater than the right | x > y |
| < | Less that - True if left operand is less than the right | x < y |
| == | Equal to - True if both operands are equal | x == y |
| != | Not equal to - True if operands are not equal | x != y |
| >= | Greater than or equal to - True if left operand is greater than or equal to the right | x >= y |
| <= | Less than or equal to - True if left operand is less than or equal to the right | x <= y |

|  |  |  |
| --- | --- | --- |
| Logical operators in Python | | |
| **Operator** | **Meaning** | **Example** |
| and | True if both the operands are true | x and y |
| or | True if either of the operands is true | x or y |
| not | True if operand is false (complements the operand) | not x |

|  |  |  |
| --- | --- | --- |
| Bitwise operators in Python | | |
| **Operator** | **Meaning** | **Example** |
| & | Bitwise AND | x& y = 0 (0000 0000) |
| | | Bitwise OR | x | y = 14 (0000 1110) |
| ~ | Bitwise NOT | ~x = -11 (1111 0101) |
| ^ | Bitwise XOR | x ^ y = 14 (0000 1110) |
| >> | Bitwise right shift | x>> 2 = 2 (0000 0010) |
| << | Bitwise left shift | x<< 2 = 40 (0010 1000) |

|  |  |  |
| --- | --- | --- |
| Assignment operators in Python | | |
| **Operator** | **Example** | **Equivatent to** |
| = | x = 5 | x = 5 |
| += | x += 5 | x = x + 5 |
| -= | x -= 5 | x = x - 5 |
| \*= | x \*= 5 | x = x \* 5 |
| /= | x /= 5 | x = x / 5 |
| %= | x %= 5 | x = x % 5 |
| //= | x //= 5 | x = x // 5 |
| \*\*= | x \*\*= 5 | x = x \*\* 5 |
| &= | x &= 5 | x = x & 5 |
| |= | x |= 5 | x = x | 5 |
| ^= | x ^= 5 | x = x ^ 5 |
| >>= | x >>= 5 | x = x >> 5 |
| <<= | x <<= 5 | x = x << 5 |

**Special operators**

1. **Identity operators**

|  |  |  |
| --- | --- | --- |
| Identity operators in Python | | |
| **Operator** | **Meaning** | **Example** |
| is | True if the operands are identical (refer to the same object) | x is True |
| is not | True if the operands are not identical (do not refer to the same object) | x is not True |

**Membership operators**

|  |  |  |
| --- | --- | --- |
| **Operator** | **Meaning** | **Example** |
| in | True if value/variable is found in the sequence | 5 in x |
| not in | True if value/variable is not found in the sequence | 5 not in x |