**Operator Reference Sheet**

**1. Arithmetical operators**

|  |  |
| --- | --- |
| **Operator** | **Operation** |
| **+** | Addition(and links String values) |
| **-** | Subtraction |
| **\*** | Multiplication |
| **/** | Division |
| **%** | Modulus |
| **++** | Increment |
| **--** | Decrement |

**2. Assignment operators**

|  |  |  |
| --- | --- | --- |
| **Operator:** | **Example:** | **Equivalent:** |
| **=** | a = b | a = b |
| **+=** | a += b | a = a + b |
| **-=** | a -= b | a = a - b |
| **\*=** | a \*=b | a = a \* b |
| **/=** | a /= b | a = a / b |
| **%=** | a %= b | a = a% b |

**3. Comparison values**

|  |  |
| --- | --- |
| **Operator** | **Comparison** |
| **==** | Equality |
| **!=** | Inequality |
| **>** | Greater than |
| **>=** | Greater than, or equal to |
| **<** | Less than |
| **<=** | Less than, or equal to |

**4. Logical operators**

|  |  |
| --- | --- |
| **Operator:** | **Operation:** |
| **&&** | The **logical AND** operator (&&) returns the boolean value true if both operands are true and returns false otherwise. |
| **||** | The **logical OR** operator (**||**) returns the boolean value **true** if either or both operands is **true** and returns **false** otherwise. |
| **!** | The **logical negation** operator (**!**) reverses the meaning of its operand. |

**5. Operator Precedence**

|  |  |
| --- | --- |
| **++ -- !** | Increment, Decrement, Logical NOT |
| **\* / %** | Multiplication, Division, Modulus |
| **+ -** | Addition, Subtraction |
| **> >=** | Greater than, Greater than or equal to |
| **< <=** | Less than, Less than or equal to |
| **== !=** | Equality, Inequality |
| **&&** | Logical AND |
| **||** | Logical OR |
| **? :** | Conditional |
| **= += -= \*= /= %=** | Assignment |

**6. Escape Operators**

|  |  |
| --- | --- |
| **Escape:** | **Description:** |
| **\n** | Newline |
| **\t** | Tab |
| **\b** | Backspace |
| **\r** | Carriage return |
| **\f** | Formfeed |
| **\\** | Backslash |
| **\'** | Single quote mark |
| **\"** | Double quote |

**7. Bitwise operators**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operator:** | **Operation:** | **Example:** | **Result:** |
| **&** | **AND** | a % b | 1 if both bits are 1 |
| **|** | **OR** | a | b | 1 if either bit is 1 |
| **^** | **XOR** | a ^ b | 1 if both bits differ |
| **~** | **NOT** | ~a | Inverts the bits |
| **<<** | **Left shift** | nn << p | Moves n bits p left |
| **>>** | **Right shift** | nn >> p | Moves n bits p right |