Integer Language-Independent Type for YAML™ Version 1.1

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Status

This specification is a draft reflecting consensus reached by members of the yaml-core mailing list [http://lists.sourceforge.net/lists/listinfo/yaml-core]. Any questions regarding this draft should be raised on this list.

URI: **`tag:yaml.org,2002:int`**

Shorthand: **`!!int`**

Kind: Scalar.

Definition: Mathematical integers.

Integers represent arbitrarily sized finite mathematical integers. Integers can be formatted using the familiar decimal notation, may have a leading “**`0x`**” to signal hexadecimal, a leading “**`0b`**” to indicate binary bits (base 2), or have leading “**`0`**” to signal an octal base. Using “**`:`**” allows expressing integers in base 60, which is convenient for time and angle values. Any “_” characters in the number are ignored, allowing a readable representation of large values.

Scalars of this type should be represented by a native integer data type, if possible. However, there are cases where an integer provided may overflow the native type’s storage capability. In this case, the processor should find some manner to round-trip the integer, perhaps using a string based representation. In general, integers representable using 32 binary digits should safely round-trip through most systems.

Canonical Format:

```
0|-?[1-9]&[0-9]* # (base 10)
```

Resolution and Validation: Valid values must match the following regular expression, which may also be used for implicit tag resolution:

```
 [-+]?0b[0-1_]+ # (base 2)
|[-+]?0[0-8_]+ # (base 8)
|[-+]?(0|[1-9])[0-9_]*) # (base 10)
|[-+]?0x[0-9a-fA-F_]+ # (base 16)
|[-+]?[1-9][0-9_]*(:[0-5]?[0-9])+ # (base 60)
```

Example 1. `!!int` Examples

```
canonical: 685230
decimal: +685_230
octal: 02472256
hexadecimal: 0x_0A_74_AE
binary: 0b1010_0111_0100_1010_1110
sexagesimal: 190:20:30
```