
Subject: Re: Value with type float

Posted by [mirek](#) on Fri, 01 Apr 2022 09:03:29 GMT

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abductee23 wrote on Thu, 31 March 2022 11:51

having a float in memory - writing it out through value/json , then reading it again incurs a conversion and its not the same number - (i guess on a personal level i am probably puzzled how this is not bothering you - but thats beside the point)

But that is altogether different issue! Converting float or double to decimal text and back involves completely different set of problems.

Frankly, current "stable" version (2021.1) has this botched up a bit. Here the IEEE standard states that 15 digit double numbers must be converted from text and back without a change. We were short on this promise, but this is hopefully fixed in the upcoming version.

Anyway, conversion from float to double is basically only adding zeroes to mantissa, converting from double back to float involves in most cases (*) just rounding the same additional bits (if they are zero, rounding is obviously down).

(*) - there is of course issue of range (float is about $e-38$ to $e+38$ while double $e-308$ to $e+308$) and denormals, but that is in most cases besides the point..

Mirek
