# **Type Info**

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Unknown directive type "currentmodule".

.. currentmodule:: torch

The numerical properties of a :class: 'torch.dtype' can be accessed through either the :class: 'torch.finfo' or the :class: 'torch.finfo'.

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### torch.finfo

A :class: torch.finfo' is an object that represents the numerical properties of a floating point :class: torch.dtype', (i.e. torch.float32, torch.float64, torch.float16, and torch.bfloat16). This is similar to numpy.finfo.

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A :class:'torch.finfo' provides the following attributes:

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Name	Type	Description	
bits	int	The number of bits occupied by the type.	
eps	float	The smallest representable number such that 1.0 + eps != 1.0.	
max	float	The largest representable number.	
min	float	The smallest representable number (typically -max).	
tiny	float	The smallest positive normal number. See notes.	
resolution	float	The approximate decimal resolution of this type, i.e., 10**-precision.	

## Note

The constructor of class: torch.finfo' can be called without argument, in which case the class is created for the pytorch default dtype (as returned by :func: torch.get\_default\_dtype').

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resources\pytorch-master\docs\source\[pytorch-master] [docs]
[source] type\_info.rst, line 34); backlink

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#### Note

tiny returns the smallest *normal* number, but there are smaller subnormal numbers. See <a href="https://en.wikipedia.org/wiki/Denormal\_number">https://en.wikipedia.org/wiki/Denormal\_number</a> for more information.

## torch.iinfo

A :class: torch.iinfo' is an object that represents the numerical properties of a integer :class: torch.dtype' (i.e. torch.uint8, torch.int8, torch.int16, torch.int32, and torch.int64). This is similar to numpy.iinfo.

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A :class:'torch.iinfo' provides the following attributes:

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Name	Type	Description
bits	int	The number of bits occupied by the type.
max	int	The largest representable number.
min	int	The smallest representable number.