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$\mathcal{C}[0,1]$

Definition. The space of all continuous functions $[0,1] \rightarrow \mathbb{R}$

$$(\mathcal{C}^0[0,1], \|\cdot\|_\infty)$$

is a commutative $\mathbb{R}$ -Banach algebra by pointwise addition and multiplication, with 1.

- operators or endomorphisms
 - [space.R.1.f R.cont.space cpt unit.int](#)
- functionals or dual elements
 - [Riemann integral functional](#) $\int_{[a,b]} : \mathcal{C}[a,b] \rightarrow \mathbb{R}$
- [Dual space of \$\mathcal{C}^0\[0,1\]\$](#)

Current note has 2 direct children and 2 total descendants.

- [stem](#)
 - [subobjects of and functions on \$\mathbb{R}^n, S^n, \mathbb{C}^n\$ and its quotients \$\Gamma \backslash \mathbb{R}^n, \Gamma \backslash \mathbb{C}^n\$](#)
 - [Continuous functions on \$\mathbb{R}^d\$](#)
 - $\mathcal{C}[0,1]$
 - [Dual space of \$\mathcal{C}\[0,1\]\$](#)
 - [Riemann integral functional](#) $\int_{[a,b]} : \mathcal{C}[a,b] \rightarrow \mathbb{R}$

And it has 5 siblings.

- [stem](#)
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 - [Continuous functions on \$\mathbb{R}^d\$](#)
 - $\mathcal{C}_0[0,1]$
 - [Continuous functions on \$\mathbb{R}\$ with infinite limit are uniformly continuous](#)
 - [Intermedia value property of continuous functions on intervals](#)
 - $\mathcal{C}(U,X)$
 - $\mathcal{C}[0,1]$