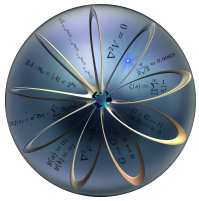

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profinite completion

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The *profinite completion* of a group G is defined to be the profinite group

$$\hat{G} = \varprojlim_{N \trianglelefteqslant_{\mathrm{f}} G} G/N,$$

where $N \trianglelefteqslant_{\mathrm{f}} G$ means that N is a normal subgroup of finite index in G.

A group embeds into its profinite completion if and only if it is residually finite.