# Tarski group

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| Defines | Tarski monster |

A *Tarski group* is an infinite group $G$ such that every non-trivial proper subgroup of $G$ is of prime order.

Tarski groups are also called *Tarski monsters*, especially in the case when all the proper non-trivial subgroups are of the same order (that is, when the Tarski group is a `http://planetmath.org/PGroup4`$p$-group for some prime $p$).

Alexander Ol'shanskii[**?**, **?**] showed that Tarski groups exist, and that there is a Tarski $p$-group for every prime $p > 10^{75}$.

From the definition one can easily deduce a number of properties of Tarski groups. For example, every Tarski group is a simple group, it satisfies the minimal condition and the maximal condition, it can be generated by just two elements, it is periodic but not locally finite, and its `http://planetmath.org/LatticeOfSubgroups`subgroup lattice is `http://planetmath.org/Modu`

# References

[1] A. Yu. Olshanskii, *An infinite group with subgroups of prime orders*, Math. USSR Izv. 16 (1981), 279–289; translation of Izvestia Akad. Nauk SSSR Ser. Matem. 44 (1980), 309–321.

[2] A. Yu. Olshanskii, *Groups of bounded period with subgroups of prime order*, Algebra and Logic 21 (1983), 369–418; translation of Algebra i Logika 21 (1982), 553–618.