On theories of finitely generated groups
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It is proved that the classes of

- all finitely generated (f.g.) groups,
- all $n$-generated groups,
- all strictly $n$-generated groups ($n \geq 2$)

have $\Pi^1_1$-complete elementary theories. All those theories are distinct.

A f.g. group $G$ is called quasi-finitely axiomatizable (QFA) if there exists a first order sentence $\varphi$ such that all f.g. groups which are models of $\varphi$ are isomorphic to $G$. It is shown that all QFA-groups have hyperarithmetical word problems. It is shown that the Turing degrees of word problems of QFA groups form a cofinal set in the Turing degrees of hyperarithmetical sets.