Malliteoria

Harjoitus 9

1. Show that T_{acf_0} is not ω-categorical.

2. Suppose T is complete. Let $A \subseteq \mathcal{A} \models T$. We say that $p \in S_n(A; \mathcal{A})$ is isolated if there is $\phi \in p$ such that for all $\theta \in p$, $Th(\mathcal{A}, A) \models \forall v_1 ... \forall v_n(\phi \to \theta)$. Assume that $\mathcal{A}$ is primary over A i.e. there are $a_i \in \mathcal{A}$, $i < \alpha$, such that $\mathcal{A} = A \cup \{a_i |\ i < \alpha\}$ and for all $i < \alpha$, $t(a_i / A \cup \{a_j |\ j < i\})$ is isolated. Show that if $\mathcal{B} \models T$ and $f : \mathcal{A} \to \mathcal{B}$ is a partial elementary map with $dom(f) = A$, then there is an elementary embedding $g : \mathcal{A} \to \mathcal{B}$ such that $f \subseteq g$ (i.e. $\mathcal{A}$ is prime over A).

3. Prove the claim in Example 10.7.

4. Prove Lemma 10.6.