Problem list 5

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Exercise 1. Assume that $\mathrm{char}(K) = p > 0$, $K \subseteq L$ is an algebraic field extension and $a \in L \setminus K$. Prove that a^{p^l} is separable over K for some $l \geq 0$.

We simply want to show that there exists an l such that $a^{p^l} \in K$