

Exercises:

1. Prove lemma (40.1)
2. Show that the Prüfer group (40.3) is the inductive limit of the sequence of multiplicative cyclic groups C_{p^k} of order p^k , where p is a prime number.
3. Discuss the existence of inductive limits of directed systems in the categories **Gr** and **Top**.
4. Suppose that $\{G_\alpha/\alpha \in \Lambda\}$ is a directed system of groups with inductive limit G and associated maps $f_\alpha : G_\alpha \longrightarrow G$, show that G is the set theoretic union of the images $f_\alpha(G_\alpha)$, $\alpha \in \Lambda$.