## Homework, the 2st series

Deadline: 23 April, 23:59.
For a language $L$ over an alphabet $\left\{a_{1}, a_{2}, \ldots, a_{k}\right\}$, let $L^{\prime}$ consists of those words $u$, for which there exist some words $u_{1}, u_{2}, \ldots, u_{k}$ in $L$, such that the number of occurrences of the letter $a_{i}$ in the word $u$ equals the length of the word $u_{i}$.
Show that $L^{\prime}$ is in the class $P /$ poly for any language $L$.

