

Exercises

E3.a.33 [00X] Consider a proposition $P(u, \ell)$ dependent on two free variables u (which takes values in the set of people), and ℓ (in the set all the jobs), and which is worded as follows: '*Person u knows how to do the job ℓ* '.
the job ℓ '.

Express the following formulas in English

$$\begin{aligned} & \exists u \exists \ell P(u, \ell) \quad , \quad \forall u \exists \ell P(u, \ell) \quad , \quad \exists \ell \forall u P(u, \ell) \quad , \\ & \forall \ell \exists u P(u, \ell) \quad , \quad \exists u \forall \ell P(u, \ell) \quad , \quad \forall u \forall \ell P(u, \ell) \quad . \end{aligned}$$

Solution 1. [00Y]