The steps associated with the knowledge engineering process are :

1 Identify the task.

The task will determine what knowledge must be represented in order to connect problem instances to answers. This step is analogous to the PEAS process for designing agents.

2. **Assemble the relevant knowledge**. The knowledge engineer might already be an expert in the domain, or might need to work with real experts to extract what they know-a process called **knowledge acquisition.**

3. Decide on a vocabulary of predicates, functions, and constants. That is, translate the important domain-level concepts into logic-level names. Once the choices have been made. the result is a vocabulary that is known as the **ontology** of the domain. The word ontology means a particular theory of the nature of being or existence.

4. **Encode general knowledge about the domain**. The knowledge engineer writes down the axioms for all the vocabulary terms. This pins down (to the extent possible) the meaning of the terms, enabling the expert to check the content. Often, this step reveals misconceptions or gaps in the vocabulary that must be fixed by returning to step 3 and iterating through the process.

5. Encode a description of the specific problem instance

For a logical agent, problem instances are supplied by the sensors, whereas a "disembodied" knowledge base is supplied with additional sentences in the same way that traditional programs are supplied with input data.

6. Pose queries to the inference procedure and get answers. This is where the reward is: we can let the inference procedure operate on the axioms and problem-specific facts to derive the facts we are interested in knowing.

7. Debug the knowledge base.

$\forall x$ NumOfLegs(x,4) => Mammal(x) Is false for reptiles ,amphibians.

To understand this seven-step process better, we now apply it to an extended example-the domain of electronic circuits.

The electronic circuits domain

One bit adder