Problem 2: Give a machine that captures the following description and check its consistency.

A *Deliveries* machine keeps track of the items on a delivery van and the addresses to which they should be delivered. It also keeps track of a special set of addresses *nogo* for which there might be problems in making deliveries.

Initially, the van is empty and the set *nogo* can be initialized to any arbitrary set of addresses. The machine provides four operations:

1. **load** takes an item ii and an address aa as input and adds ii, to be delivered to aa, to the contents of the van.

2. **drop** should only be invoked when the van is not empty. In such a case, it chooses an arbitrary item ii from the van and delivers it to address aa; these two values are provided as outputs of the operation.

3. **endofday** can always be invoked. It nondeterministically chooses either to empty the van, or to leave it as it is. It has no inputs or outputs.

4. **warning** takes an address aa as input. If the address is in *nogo*, then it might remove all items associated to that address from the van; or, alternatively, it might remove the address from *nogo*. If the address is not in *nogo* and there are no deliveries to that address, then it will be inserted into *nogo*. In all the other cases, the operation has no effect.