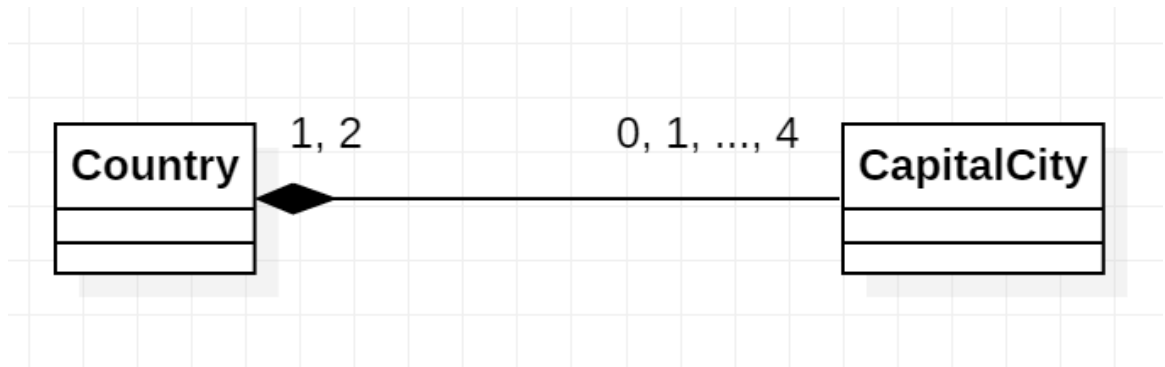


1. A **country** has a **capital city**.

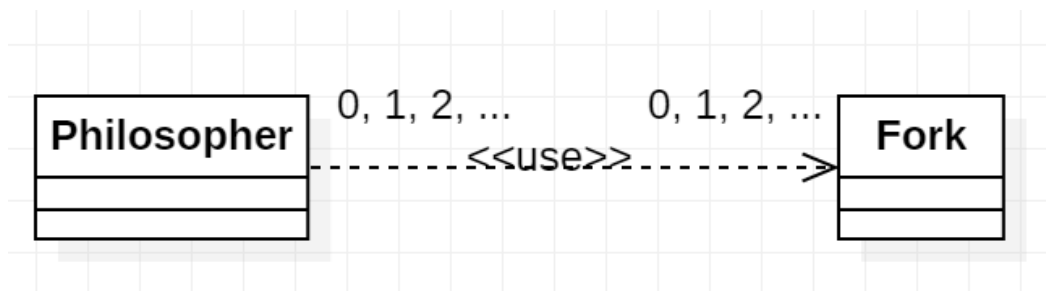


A country has zero to four capital cities.

A capital city may be owned by one or two countries.

If a country is collapsed, those capital cities are also vanished. On the other hand, if a capital city is changed or disappeared, the country may still exist. Therefore, I think capital city is part of the country.

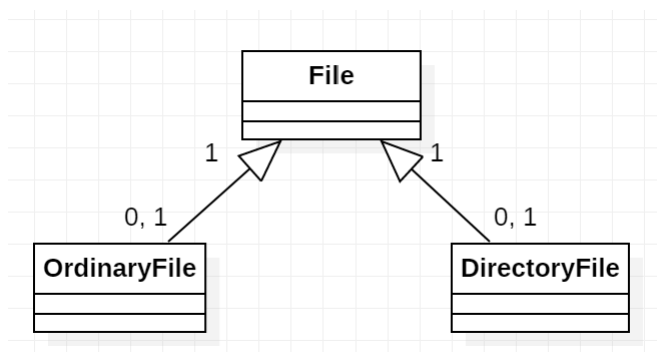
2. A dining **philosopher** is using a **fork**.



A philosopher can use more than one fork, and a fork can be used by more than one philosopher.

The relation of using forks by philosopher is temporary, so I choose dependency.

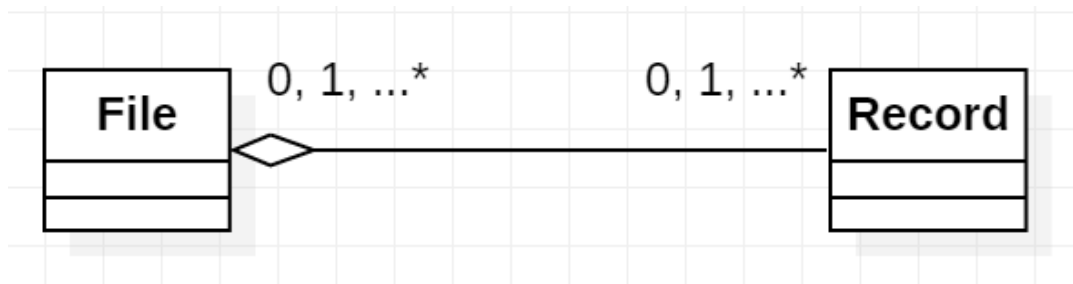
3. A **file** is an **ordinary file** or a **directory file**.



A file may be a ordinary file or a directory file.

Ordinary and directory are extended concepts of files, so I choose generalization.

4. **Files** contain **records**.

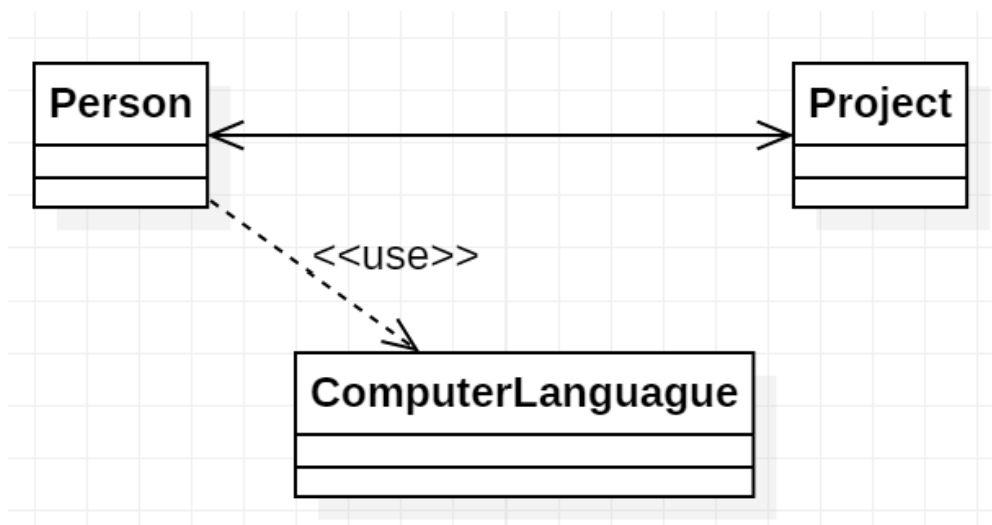


A file can contain zero to many records, and a record can be kept in zero to many files.

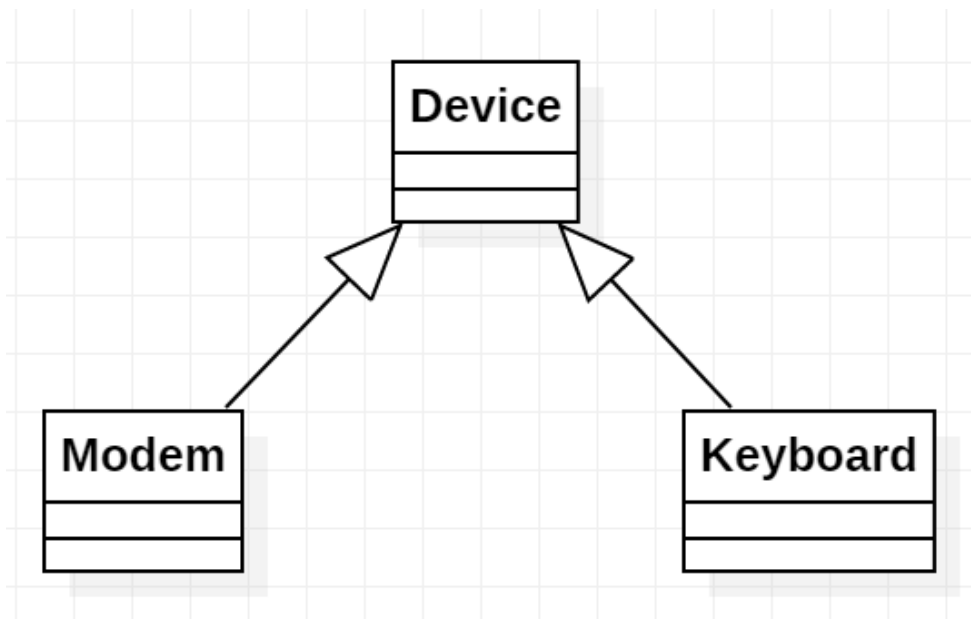
If the files are all deleted, the records may still exist by other means.

5. A **drawing object** is **text**, a **geometrical object**, or a **group**.

6. A **person** uses a **computer language** on a **project**.



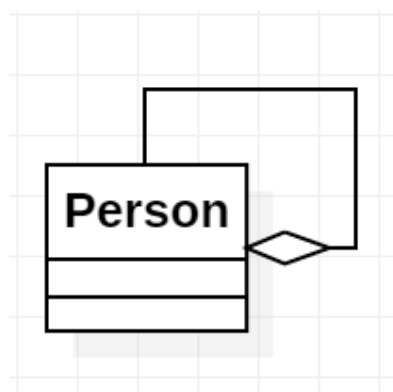
7. **Modems** and **keyboards** are **input/output devices**.



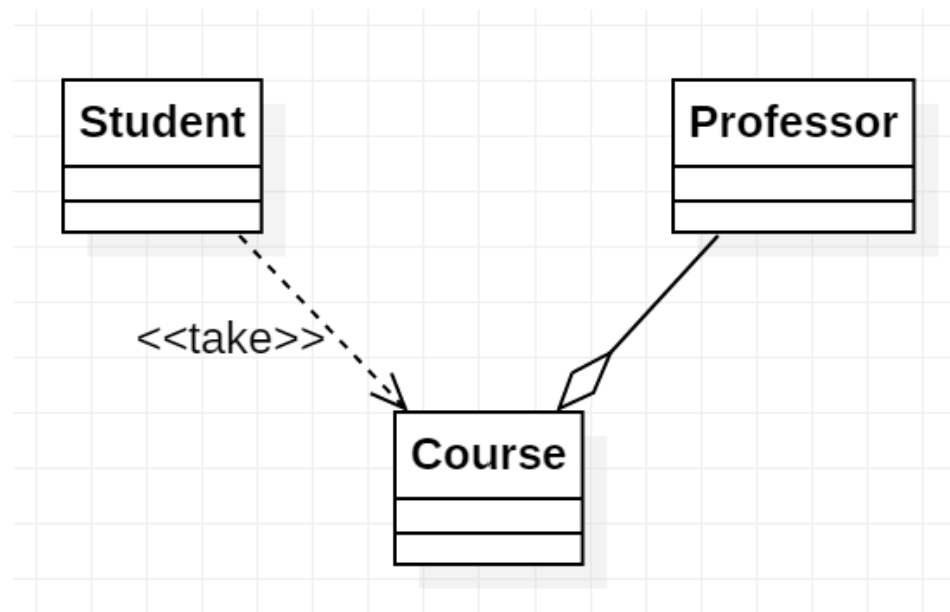
8. A **person** plays for a **team** in a **certain year**.



9. A **person** marries another **person**.

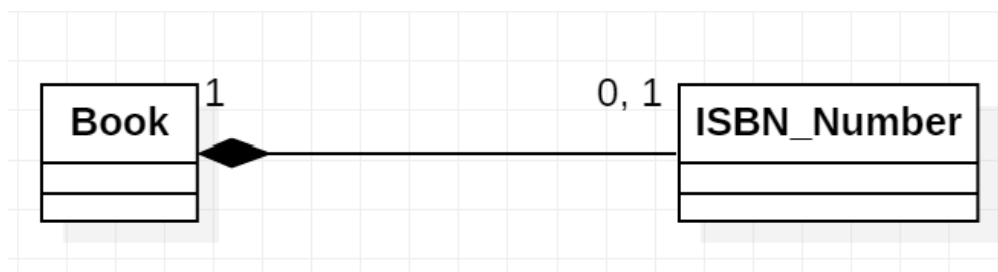


10. A **student** takes a **course** from a **professor**.



Homework

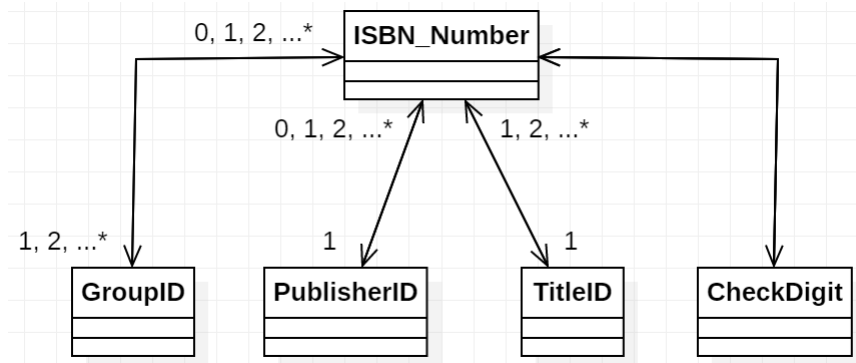
1. A **book** has a unique **ISBN number**.



Each book has less than one ISBN number, and each number is assigned to one unique book.

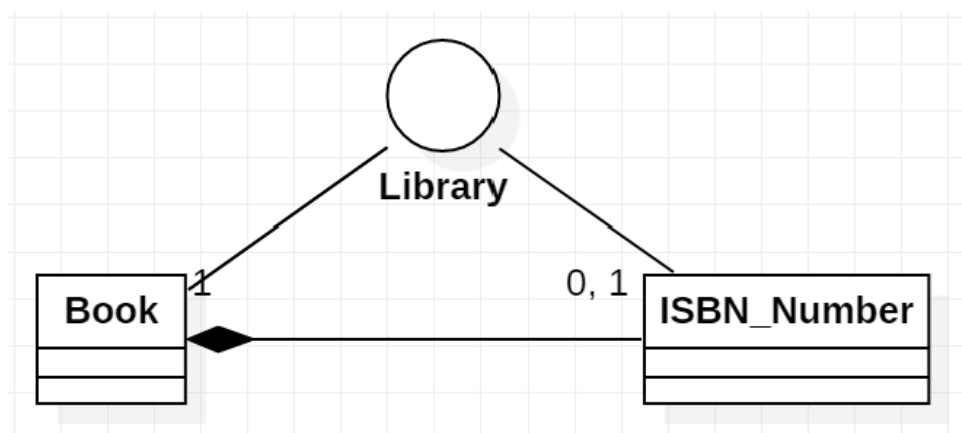
If the book is disappeared, the number is deleted, therefore, I think it is the composition relationship.

2. A **ISBN number** contains **group id**, **publisher id**, **title id**, **check-digit**.



The deletion of ISBN number not necessarily results in the vanish of those 4 objects. Hence, I pick up the relationship – association.

3. A **library** can collect **books**, and can inquiry book by ISBN.



QQ NO IDEA