# UML Association
Between Actor and Use Case

Each **use case** represents a unit of useful functionality that **subjects** provide to **actors**. An **association** between an actor and a use case indicates that the actor and the use case somehow interact or communicate with each other.

Only **binary associations** are allowed between actors and use cases.

An actor could be associated to one or several use cases.
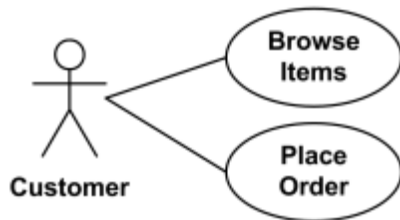
Customer actor is associated with two use cases -
Browse Items and Place Order.

A use case may have one or several associated actors.

Manage Account use case is associated with
*Customer and Bank actors.*

If there are several actors associated to the same use case, it may not be obvious from use case diagram which actor **initiates** the use case, i.e. is a "**primary actor**". (In non-standard UML, **primary actors** are those using system services, and **supporting actors** are actors providing services to the system.)

Multiplicity of Association Ends

UML allows the use of **multiplicity** at one or both ends of an association between the actor and the use case.
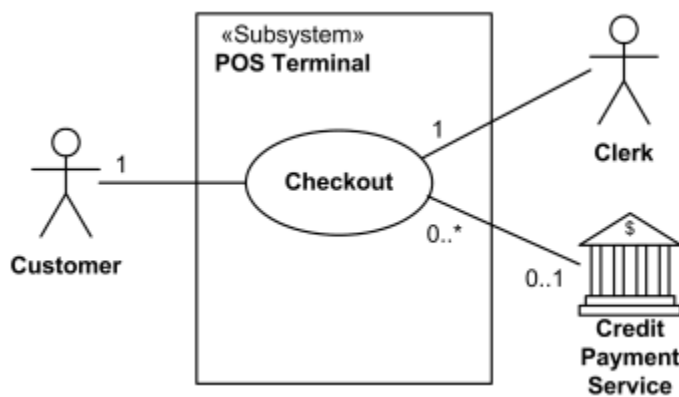
Multiplicity of a Use Case

When an actor has an association to a **use case** with a **multiplicity** that is greater than one at the use case end, it means that a given actor can be involved in **multiple use cases** of that type.
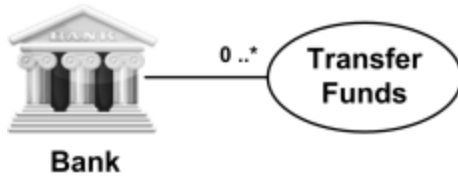
*Bank actor is involved in multiple Transfer Funds use cases.*

Multiplicity of an Actor

Required actor may be explicitly denoted using multiplicity 1 or greater. UML 2.5 also allows actor to be optional. Multiplicity **0..1** of actor means that the actor may or may not participate in any of their associated use cases.

*Checkout use case requires Customer actor, hence
the 1 multiplicity of Customer. The use case may not need
Credit Payment Service (for example, if payment is in cash),
thus the 0..1 multiplicity.*

When a use case has an association to an **actor** with a **multiplicity** that is greater than one at the actor end, it means that more than one actor instance is involved in the use case.
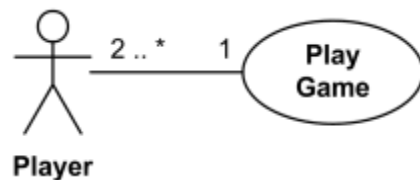
*Two or more Player actors are involved
in the Play Game use case.
Each Player participates in one Play Game.*