The concept of a set is intuitive and it could be defined as a “collection of object”. Thus, we can talk of a set of people, cities, glasses, pens or of the set of objects on a table in a given moment. A set is well defined once one know if a given element may belong to it or not. The set of blue pens is well defined, because we can tell if a pen is blue by looking at it. The set of a tell people is not well defined, because we are not always able to tell if a person is a tall by just looking or also different people may have different opinions about who is tall. In the nineteenth century, according to Frege, the elements of a set were only defined by a property.

A set is a group, class or collection of objects referred to as elements of the set (although any definition implicitly hides logical paradoxes or contractions). By object we mean not only physical entities, such as tables, chairs, etc., but also abstract entities, such as tables, chairs, etc. The membership relation between elements and sets is always perfectly discernible; in other words, whether an object belongs to a set is always regarded as true of false.

A set can be determined in two ways: by extension or by compression.

Determination of a set by extension

A set determined by extension when all its elements are written one by one.

The numbers less than 5: $A = \{1, 2, 3, 4\}$.

Determination by compression

A set is determined by compression when only a feature common to all the elements is mention.

The set of vowels of the alphabet:
$X = \{x : \ x \text{ is a vowel}\}$.