❖ Subset of Sets :

➡ If all the elements of a set **S** are also elements of a set **T**, then **S** is a subset of **T**.

➡ For example,
if **S** = {2, 4, 6} and **T** = {1, 2, 3, 4, 5, 6, 7},
then **S** is a subset of **T**.

➡ This is specified by **S** ⊆ **T** Or by **{2, 4, 6}** ⊆ **{1, 2, 3, 4, 5, 6, 7}**.

➡ If **S** is not a subset of **T**, it is written as such:
S ⊄ **T.**

➡ For example,

  ➢ {1, 2, 8} ⊆ {1, 2, 3, 4, 5, 6, 7}

➡ **S** ⊆ **T** (**S** is a subset of **T**) means that every element of **S** is also an element of **T**.

➡ **S** ⊆ **T** ⇔ ∀ **x** (**x** ∈ **S** → **x** ∈ **T**)

➡ ∅ ⊆ **S, S** ⊆ **S**.

➡ **S** ⊇ **T** (**S** is a superset of **T**) means **T** ⊆ **S**.

➡ **Note** **S=T** ⇔ **S** ⊆ **T** ∧ **S** ⊇ **T**. means (**S** ⊆ **T**), *i.e.* ∃**x**(**x** ∈ **S** ∧ **x** ∉ **T**)