* **Symmetric Difference :**
* A symmetric difference of the sets contains all the elements in either set but **NOT** both.
* Symmetric diff. symbol is a **⊕.**
* Example: **C = M** ⊕ **P.**
* Formal definition for the symmetric difference of two sets:

**A ⊕ B** = **{ *x* | (*x*∈ A or *x*∈ B) and x ∉ A ∩ B}**

**A ⊕ B = (A U B) – (A ∩ B) 🡨 Important!**

* **Further Examples**
* For an example of the symmetric difference, we will consider the sets **A = {1, 2, 3, 4, 5}** and **B = {2, 4, 6}.** The symmetric difference between these sets is **{1, 3, 5, 6}**.
* {1, 2, 3} **⊕** {3, 4, 5} **=** {1, 2, 4, 5}
* {New York, Washington} **⊕** {3, 4} = {New York, Washington, 3, 4}
* {1, 2} **⊕ ∅** = {1, 2} The symmetric difference of any set S with the empty set will be the set S