* A set is a collection of objects called elements
* A set can be described as a list.
* E.g.{1,2,3,4}
* Or set builder notations
* E.g. {x|x>0}
* Some sets
* Natural numbers N={1,2,3,4}
* Integers Z={…-2,-1,0,1,2…}
* Rational numbers Q={o/q| e!=0, p,g are integers}
* If x is an element of a set X, write xεX, otherwise it doesn’t belong.
* If x is a set, with finite many elements, then x is called a finite set.
* In this case, the cardinality of x is the number of element in X
* The cardinality of an empty set=0.
* Define the cardinality of infinite set
* If X,Y are sets, and x belongs to X implies x belongs to Y, then X is a subset of Y.
* If its each subset, then they have the same elements.
* Empty set is always a subset of x .
* Any set is always a subset of itself.
* The union {x| x belongs to X or x belongs Y}
* The intersection {x| belongs to X and x belongs to Y}
* The difference ---the part of x that is not y (x-y)
* Complement =U-x
* Properties : associative
* Commutative property : the order doesn’t matter.
* Distributed property:

X intersect (y U z) = (x intersect y) U (y intersect z)

x U empty =x

complement rule:

x U complement =U(universal set)

bound property:

* X U U =U
* X intersect U =x
* Complement of complement =orginal set
* Complement of universal—empty set.
* DeMorgan’s law:
* Complement of (x U y) = complement of x intersect complement of y
* Complement of (x intersect y)=complement of x U complement of y