Symbol	Symbol Name	Meaning / definition	Example
{ }	set	a collection of elements	A = {1, 7, 9, 13, 15, 23}, B = {7, 13, 15, 21}
A ∪ B	union	objects that belong to set A or set B	A ∪ B = {1, 7, 9, 13, 15, 21, 23}
A ∩ B	intersection	objects that belong to both the sets, A and B	A ∩ B = {7, 13, 15 }
A ⊆ B	subset	subset has few or all elements equal to the set	{7, 15} ⊆ {7, 13, 15, 21}
A ⊄ B	not subset	left set not a subset of right set	{1, 23} ⊄ B
A ⊂ B	proper subset / strict subset	subset has fewer elements than the set	{7, 13, 15} ⊂ {1, 7, 9, 13, 15, 23}
A ⊃ B	proper superset / strict superset	set A has more elements than set B	{1, 7, 9, 13, 15, 23} ⊃ {7. 13. 15. }
A ⊇ B	superset	set A has more elements or equal to the set B	{1, 7, 9, 13, 15, 23} ⊃ {7. 13. 15. 21}
Ø	empty set	Ø = { }	C = {Ø}
P (C)	power set	all subsets of C	C = {4,7}, P(C) = {{}, {4}, {7}, {4,7}} Given by 2^s, s is number of elements in set C
A ⊅ B	not superset	set A is not a superset of set B	{1, 7, 9, 13, 15, 23} ⊅ {7, 13, 15, 21}
A = B	equality	both sets have the same members	{7, 13,15} = {7, 13, 15}
A \ B or A-B	relative complement	objects that belong to A and not to B	{1, 9, 23}
A^c	complement	all the objects that do not belong to set A	We know, U = {1, 2, 7, 9, 13, 15, 21, 23, 28, 30} A^c = {2, 21, 28, 30}
A Δ B	symmetric difference	objects that belong to A or B but not to their intersection	A Δ B = {1, 9, 21, 23}
a∈B	element of	set membership	B = {7, 13, 15, 21}, 13 ∈ B
(a,b)	ordered pair	collection of 2 elements	
x∉A	not element of	no set membership	A = {1, 7, 9, 13, 15, 23, 5 ∉ A
|B|, #B	cardinality	the number of elements of set B	B = {7, 13, 15, 21}, |B|=4
A×B	cartesian product	set of all ordered pairs from A and B	{3,5} × {7,8} = {(3,7), (3,8), (5,7), (5, 8) }
N	natural numbers / whole numbers set (without zero)	N1 = {1,2,3,4,5,…}	6 ∈ N1
N0	natural numbers / whole numbers set (with zero)	N0 = {0,1,2,3,4,…}	0 ∈ N0
Q	rational numbers set	Q= {x | x=a/b, a,b∈Z}	2/6 ∈ Q
Z	integer numbers set	Z= {…-3,-2,-1,0,1,2,3,…}	-6 ∈ Z
C	complex numbers set	C= {z | z=a+bi, -∞<a<∞, -∞<b<∞}	6+2i ∈ C
R	real numbers set	R= {x | -∞ < x <∞}	6.343434 ∈R