Power point presentation

SETS

et

vell defined collection of objects or ideas known as a set.

was developed by Georg Cantor (1845-18)

1,3,5,7,9....

Set

{ 🍒 🍌 🍎 🥝 }

Well Defined Set

1. All the objects in the set should have a common feature or property

2. It should be possible to decide whether any given object belongs to the set or not.

Ex: a, e, i, o, u

ming of Sets

e usually denote a set by upper letters A, B, C, X, Y, Z
c.

mples :

he set of all Natural numbers is denoted by N.

he set of all Integers is denoted by Z.

he set of all Rational numbers is denoted by Q.

he set of all Real numbers is denoted by R.

Types of sets

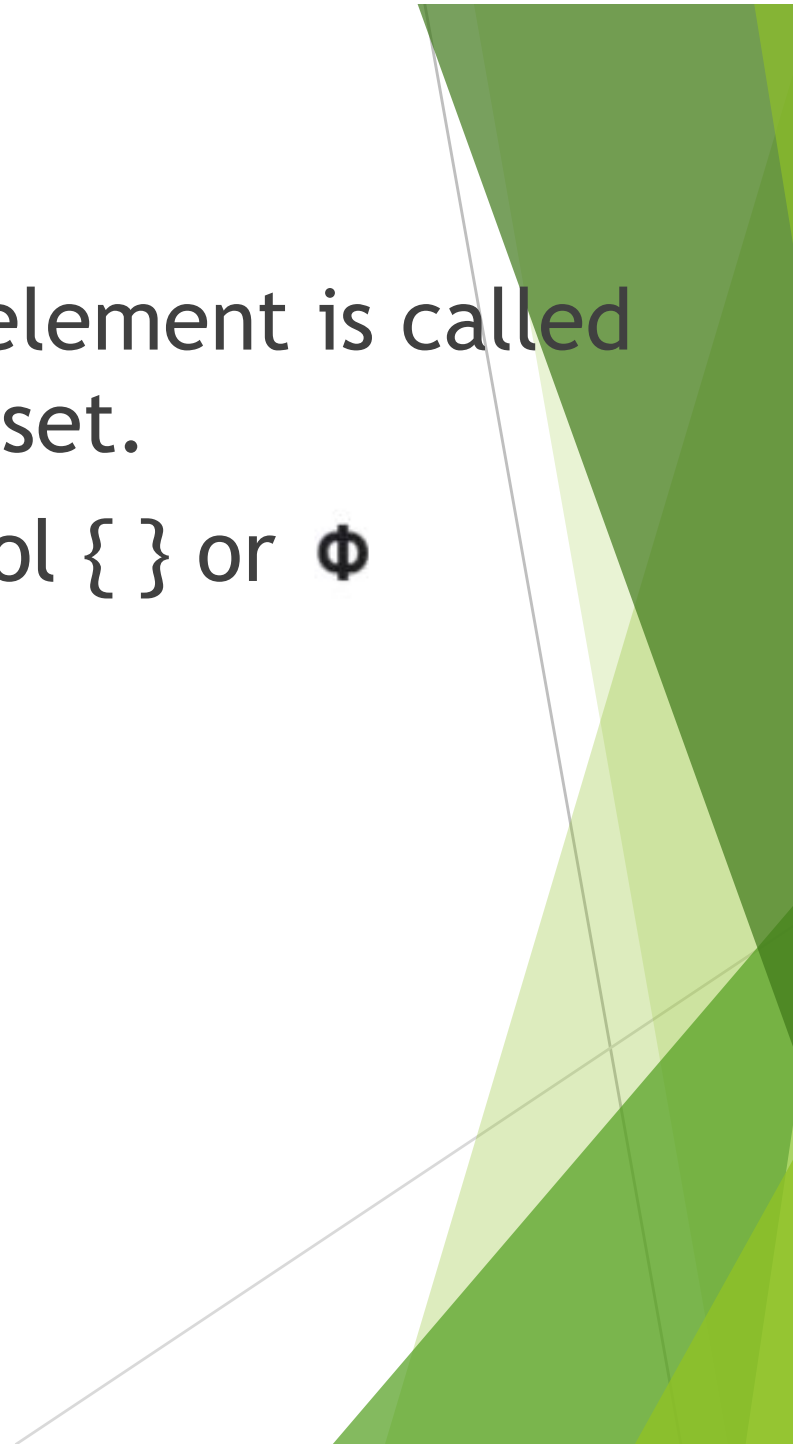There are Three types of sets. They are

1. Null Set

2. Finite Set

3. Infinite Set

Null Set

A set which does not contain any element is called an empty set or a Null set or Void set.

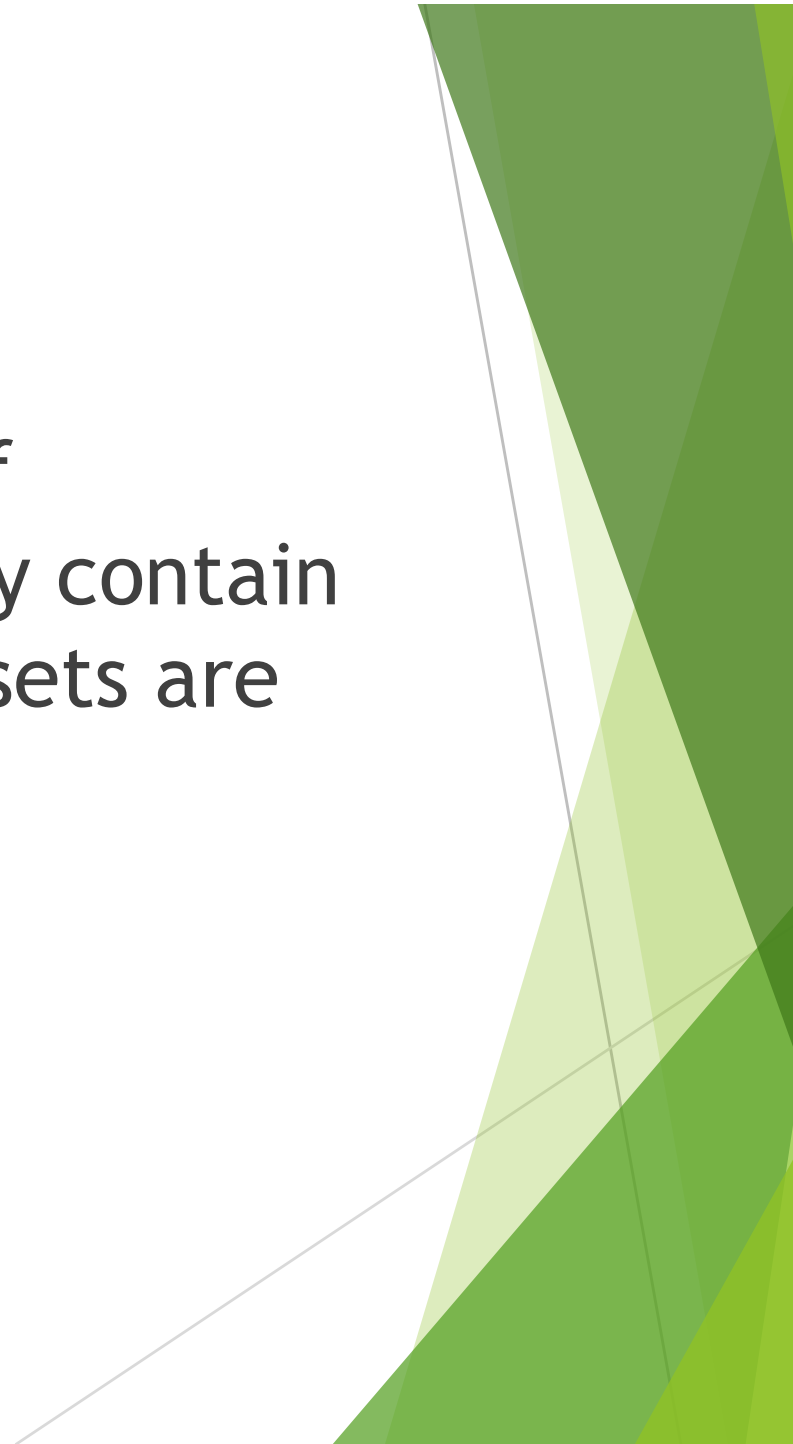Empty set is denoted by the symbol { } or Φ

Finite Set

It is possible to count the number of elements of sets A and L or that they contain a finite number of elements. Such sets are called finite sets.

A = { the students of your school }

L = {p, q, r, s }

Infinite Set

It is not possible to find that the number of elements in B and J is infinite. Such sets are called infinite sets.
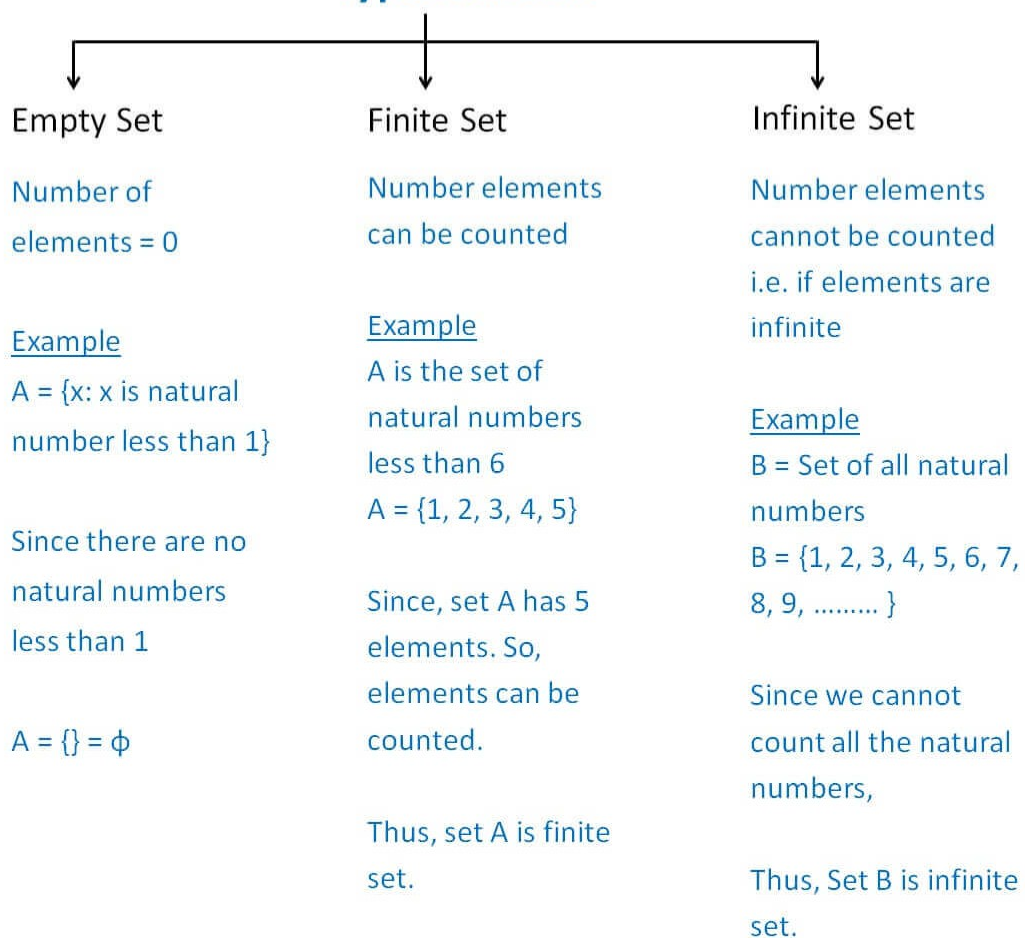
   B = { x:x is an even number }

   J = { x:x is a multiple of 7 }

Representation of types of sets

Types of sets

teachoo.com

Empty Set
→

Finite Set
→

Infinite Set
→

Empty Set	Finite Set	Infinite Set
Number of elements = 0	Number elements can be counted	Number elements cannot be counted i.e. if elements are infinite
Example A = {x: x is natural number less than 1}	Example A is the set of natural numbers less than 6 A = {1, 2, 3, 4, 5}	Example B = Set of all natural numbers B = {1, 2, 3, 4, 5, 6, 7, 8, 9, ... }
Since there are no natural numbers less than 1	Since, set A has 5 elements. So, elements can be counted.	Since we cannot count all the natural numbers,
A = {} = φ	Thus, set A is finite set.	Thus, Set B is infinite set.

Questions

What is a set?

Give an examples of finite set?

What is infinite set?

Explain null set?

Give an examples of well defined set?