A **Binomial Tree** B_k is an ordered tree defined recursively, where k represents the order of the binomial tree.
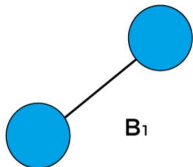
- If the binomial tree is of order **0** (B_0), it consists of a single node.
- In general, a binomial tree of order **k** (B_k) consists of **two binomial trees** of order $k-1$, where one is linked as the **left subtree** of the other.

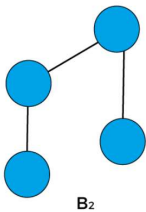If B_0, where k is 0, there would exist only one node in the tree.

B_0

(handwritten, top right)

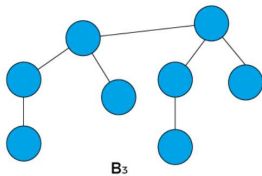| Binomial Tree	order	No. of nodes, 2^{order}
◯	0	$2^0 = 1$

If B_1, where k is 1. Therefore, there would be two binomial trees of B_0 in which one B_0 becomes the left subtree of another B_0.

B_1

If B_2, where k is 2. Therefore, there would be two binomial trees of B_1 in which one B_1 becomes the left subtree of another B_1.

B_2

If B_3, where k is 3. Therefore, there would be two binomial trees of B_2 in which one B_2 becomes the left subtree of another B_2.

B_3

Binomial Tree –

Order =

Binomial Tree	order	No. of nodes, 2^{order}
◯	0	$2^0 = 1$

Binomial Tree order = 1

1st step

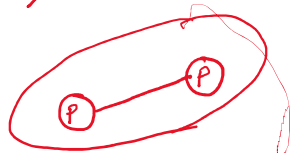$\nearrow \quad \searrow$

$\rightarrow 2^1 = 2$

(P)

Binary Tree –

◯ → Node

↓

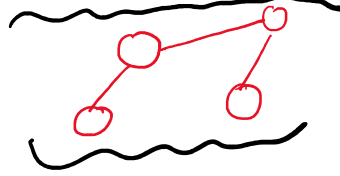Max child.

↓

2.

✓ ① 2 Binomial tree
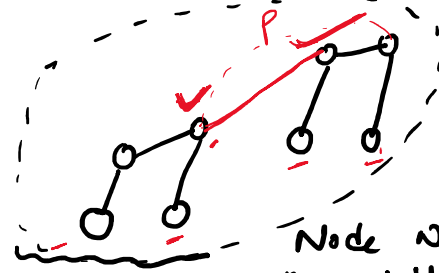order = $k-1$.

②

1st step

$2^2 = 4$

Binomial Tree of order 2.

Binomial Tree of order 3 $\longrightarrow 2^3 = 8$

P

Node Which have max child.