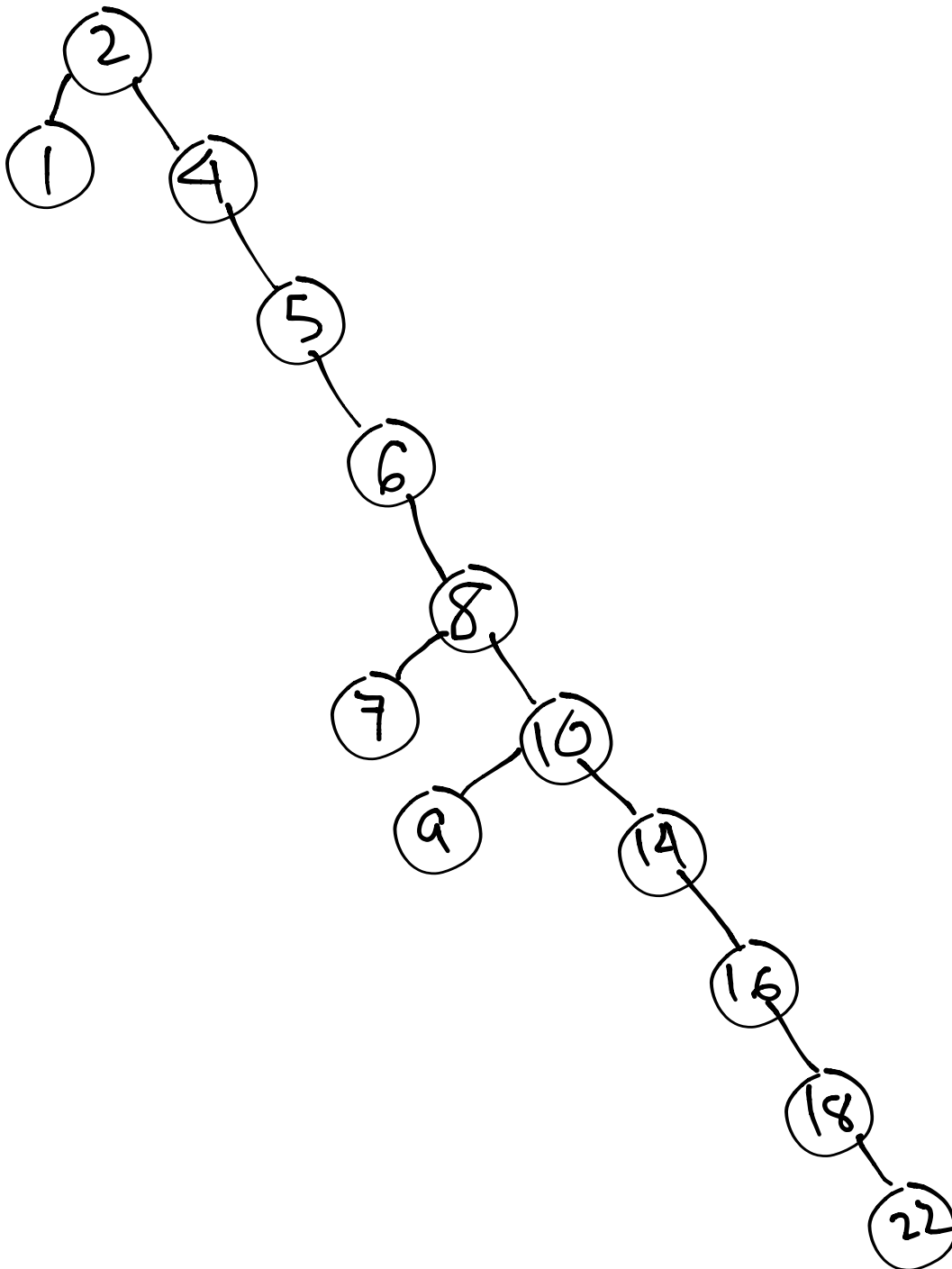## A. Simple Binary Tree
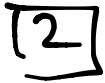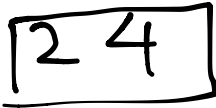
B. B-Tree 2-3
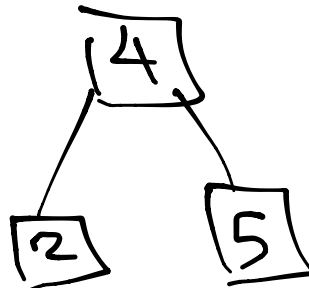
Insert 2:

[2]

Insert 4:

[2 4]

Insert 5:

[2 4] ← 5

→

[4]
├─ [2]
└─ [5]

Insert 6:

[4]
├─ [2]
└─ [5 6]
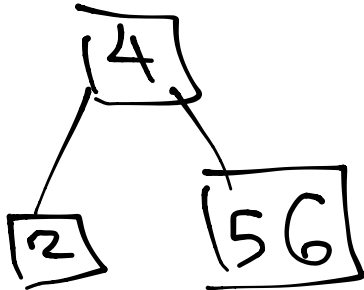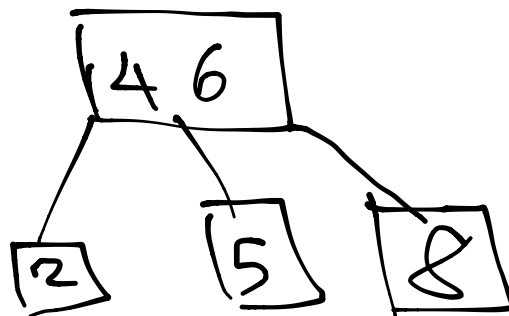
Insert 8:

[4]
├─ [2]
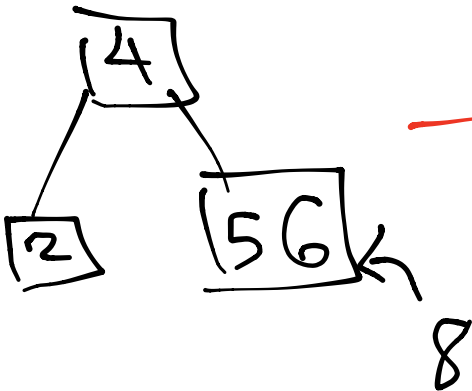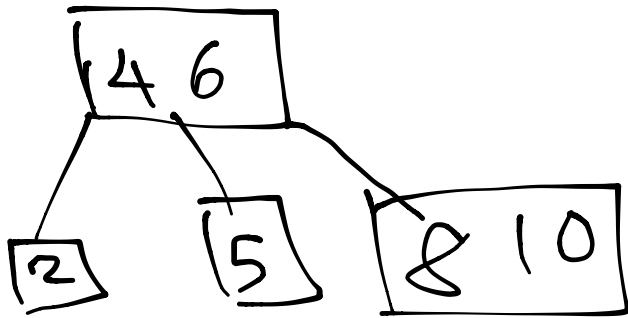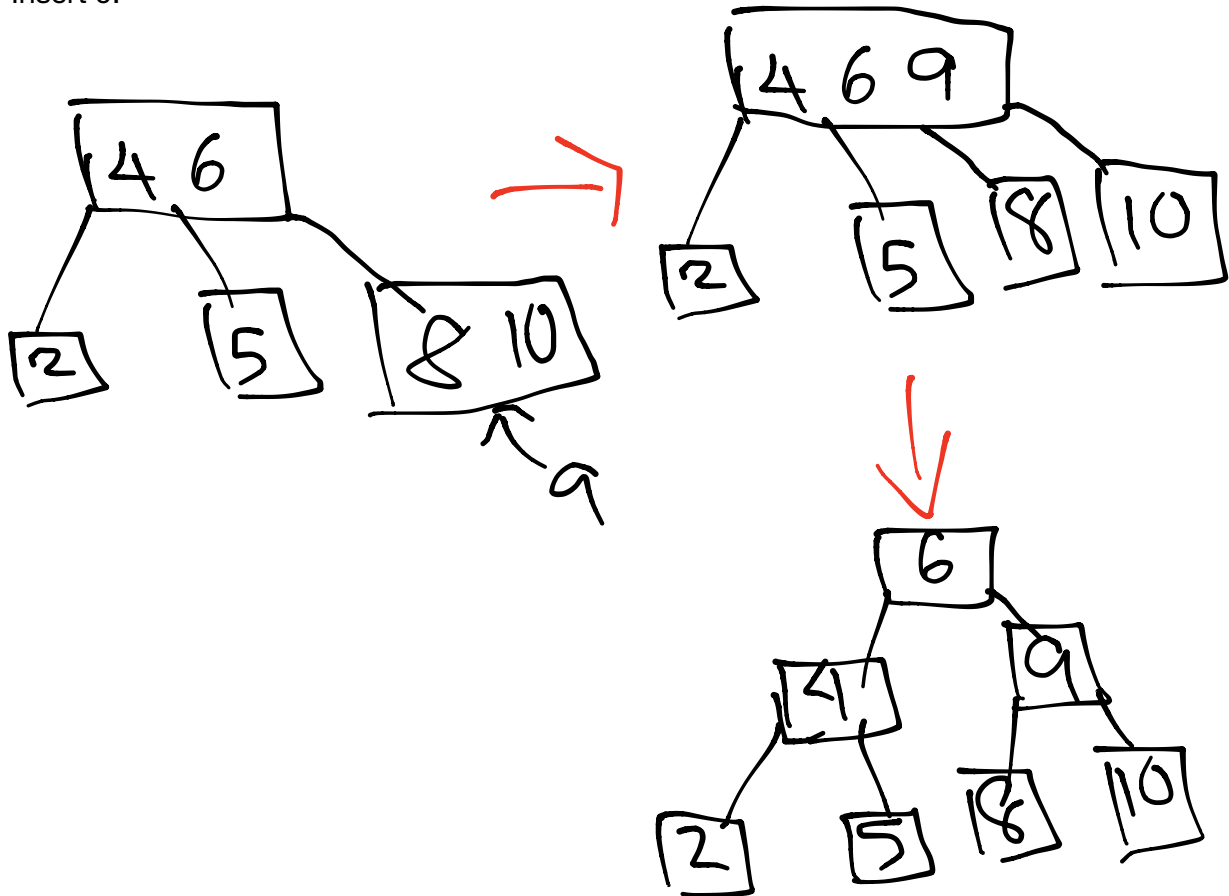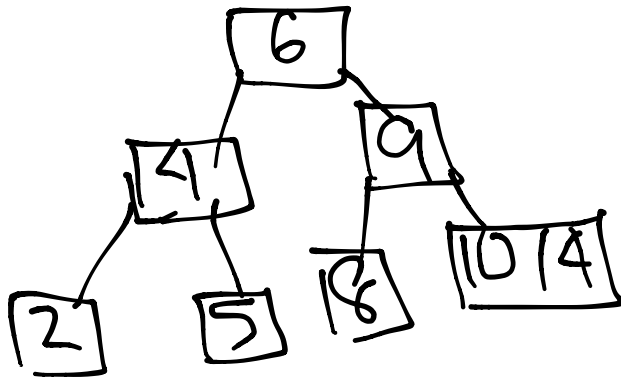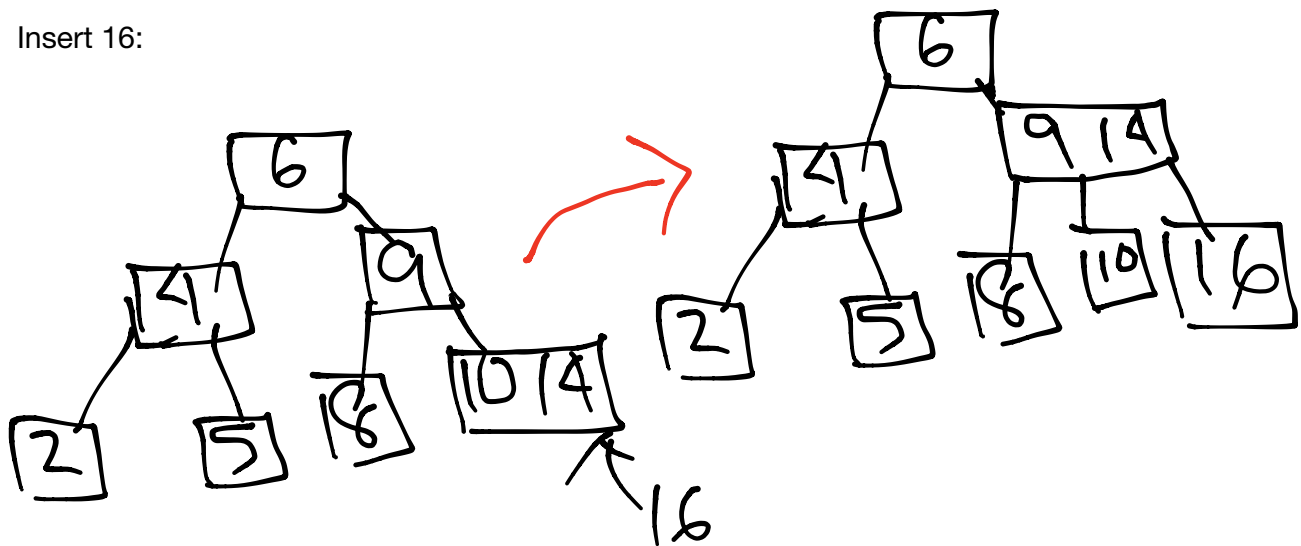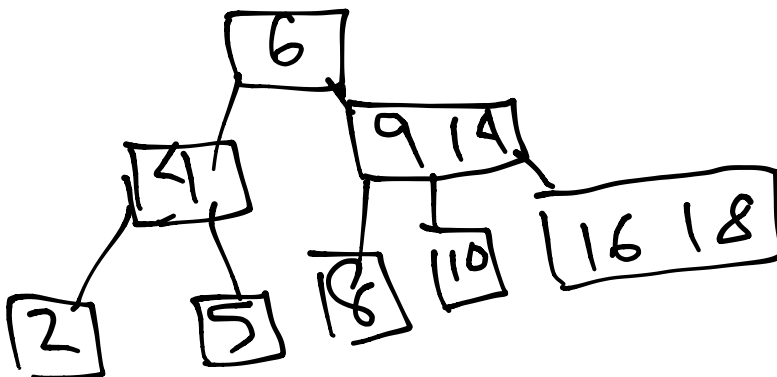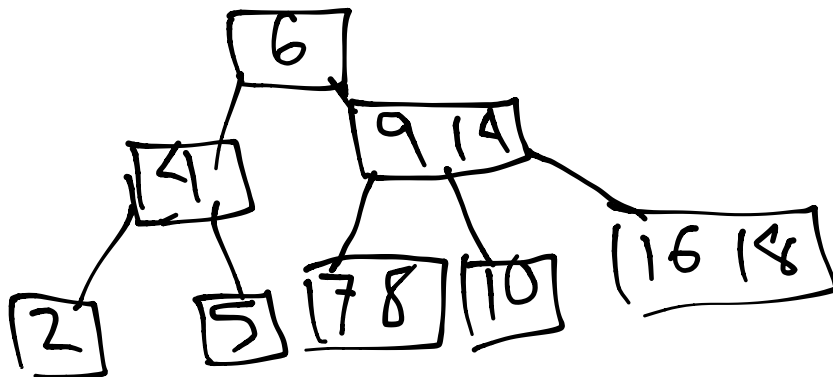└─ [5 6] ← 8

→

[4 6]
├─ [2]
├─ [5]
└─ [8]

Insert 10:

Insert 9:

Insert 14:

Insert 16:

Insert 18:

Insert 7:

Insert 22:

I

Tree 1:

614 — 18
41 — 9
2 — 5 78 10 1622

Insert 1:

614 — 18
41 — 9
12 — 5 78 10 1622
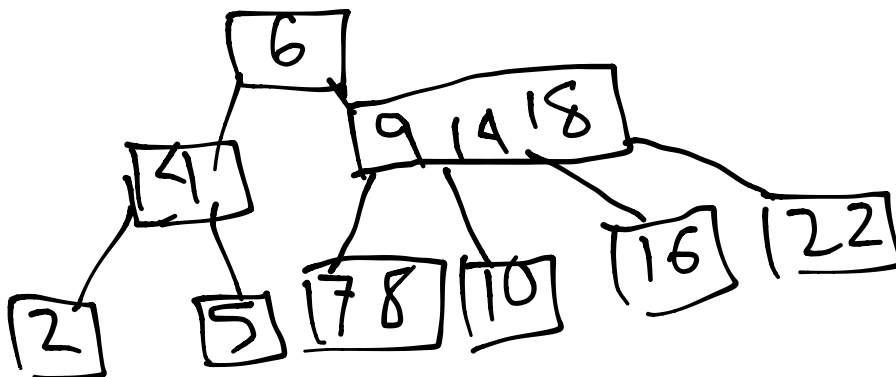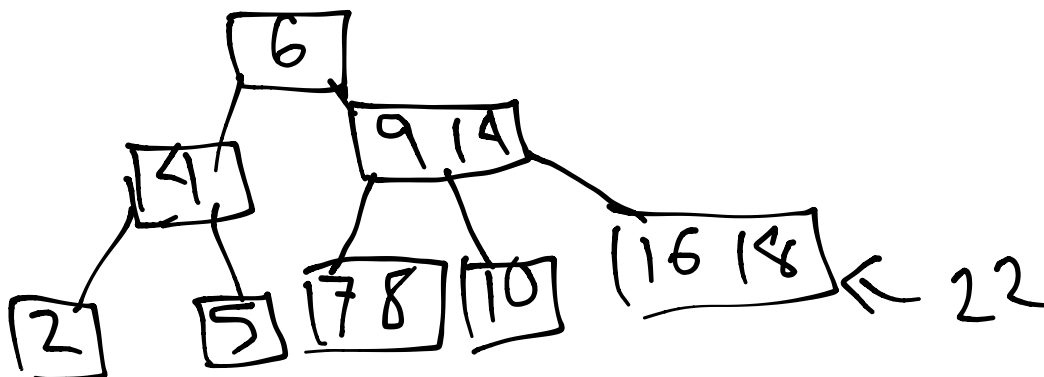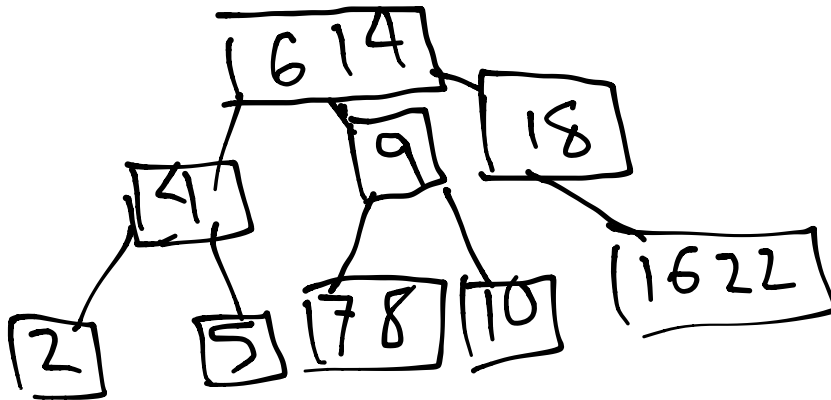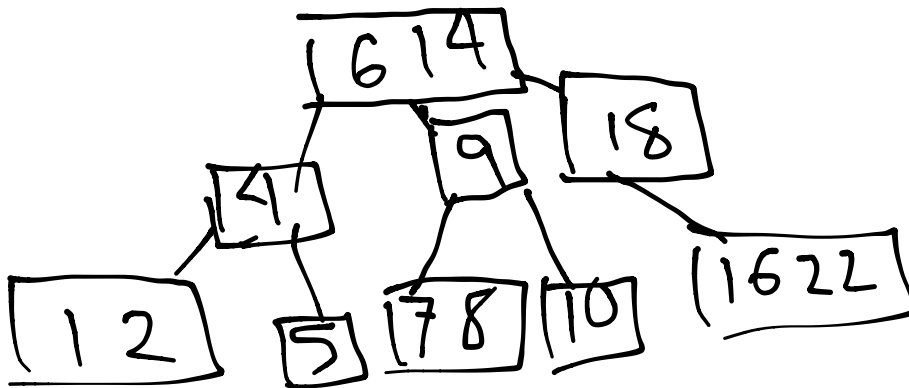
C. The main difference between the simple binary tree and and B-Tree 2-3 is that a simple binary tree can only have 2 child nodes max while 2-3 has more. The advantage of B-Tree is that searching is faster since each node can contain 2 data.