

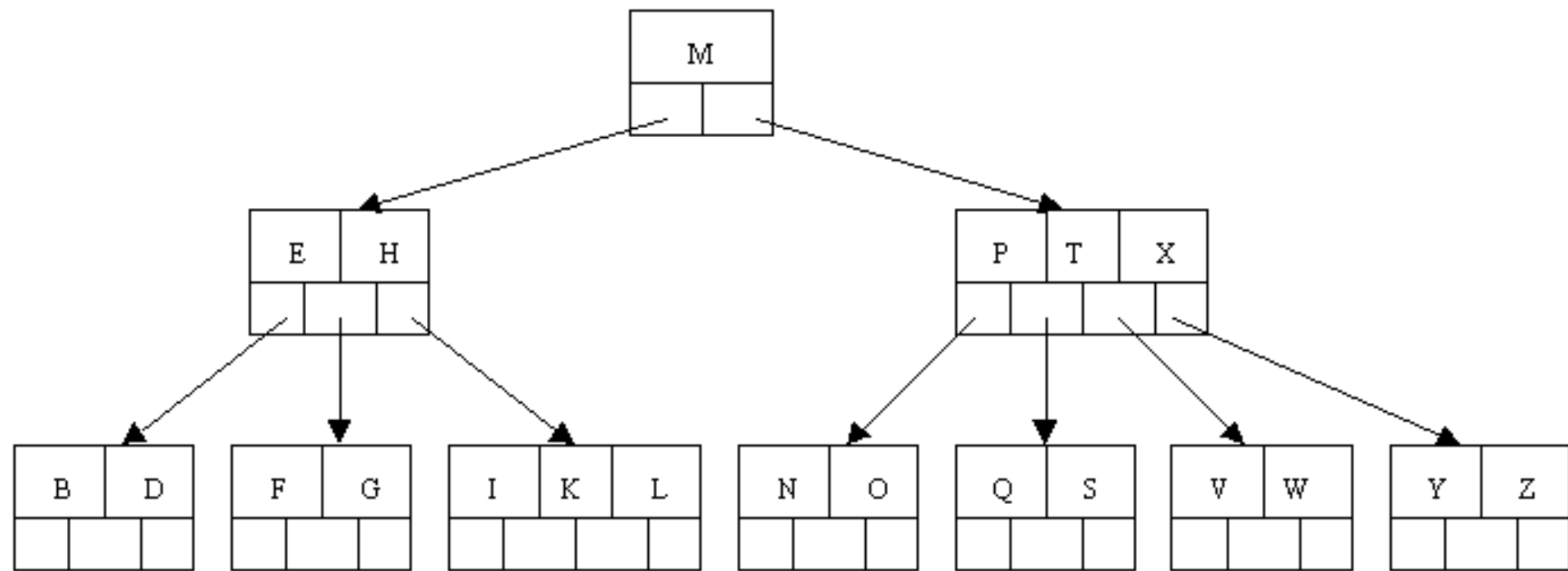
# MONGO PERFORMANCE

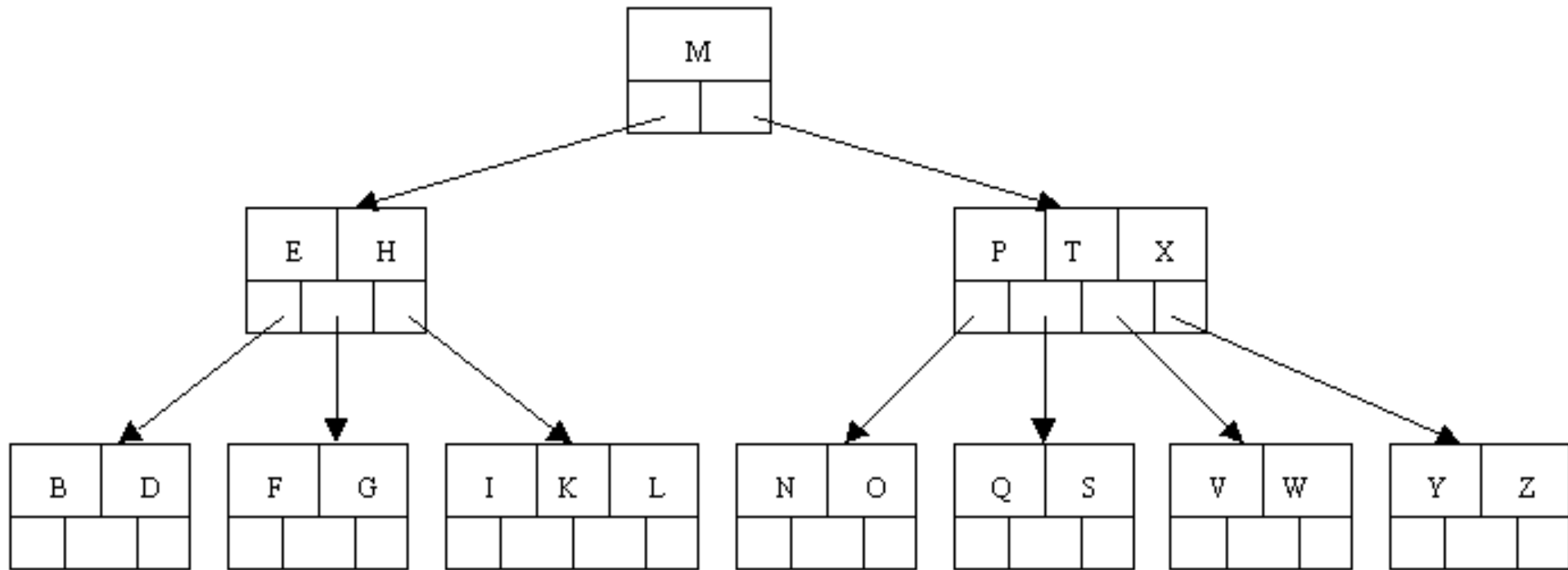
ADAM NADOBA

► `db.kolekcja.createIndex({"pole": 1})`


► `db.kolekcja.find({"pole": "tak"})`

Several thin, parallel white lines of varying lengths and orientations are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.





$O(n)$  vs  $O(\log n)$

- ▶ `db.kolekcja.createIndex({"pole": 1, "drugie": 1, "trzecie": 1})`
  - ▶ `db.kolekcja.find({"pole": "duze", "drugie": 123, "trzecie": 345})`
- 
- A series of four parallel white diagonal lines in the bottom right corner of the slide, slanting upwards from left to right.

- ▶ `db.kolekcja.createIndex({"pole": 1, "drugie": 1, "trzecie": 1})`
  - ▶ `db.kolekcja.find({"pole": "duze", "drugie": 123, "trzecie": 345})`
- 

- ▶ `db.kolekcja.find({"pole": "duze"})`
- ▶ `db.kolekcja.find({"pole": "duze", "drugie": 123})`

- ▶ `db.kolekcja.createIndex({"pole": 1, "drugie": 1, "trzecie": 1})`
  - ▶ `db.kolekcja.find({"pole": "duze", "drugie": 123, "trzecie": 345})`
- 

- ▶ `db.kolekcja.find({"pole": "duze"})`
- ▶ `db.kolekcja.find({"pole": "duze", "drugie": 123})`
- ▶ ~~`db.kolekcja.find({"pole": "duze", "trzecie": 345})`~~

► **Equality**

```
db.kolekcja.find({"pole": "duze"})
```

► **Sort**

```
db.kolekcja.find({"pole": "duze"}).sort({"drugie": -1})
```

► **Range**

```
db.kolekcja.find({"pole": { $gte: 15, $lt: 25 }})
```



► `db.kolekcja.find({"a": { $lt: 25 }, "b": "takie"}).sort({"c": 1})`

Several white lines of varying lengths and slopes are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.

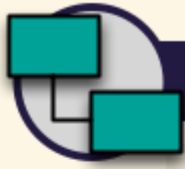
► `db.kolekcja.find({"a": { $lt: 25 }, "b": "takie"}).sort({"c": 1})`

► `db.kolekcja.createIndex({"b": 1, "c": 1, "a": 1})`

Several thin, parallel white lines of varying lengths and slopes are positioned in the bottom right corner of the slide, creating a modern, abstract graphic element.







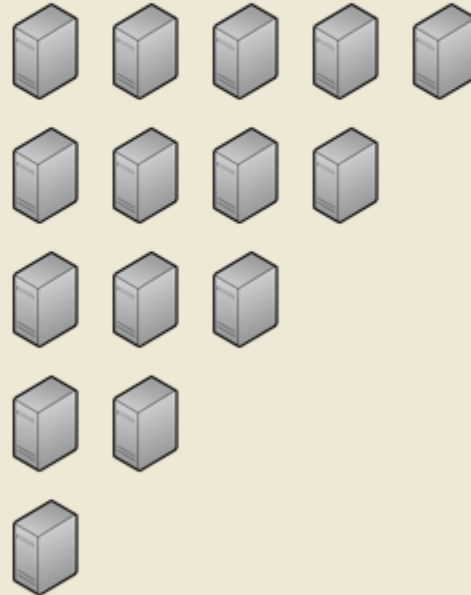
((CENTRIC|&R))

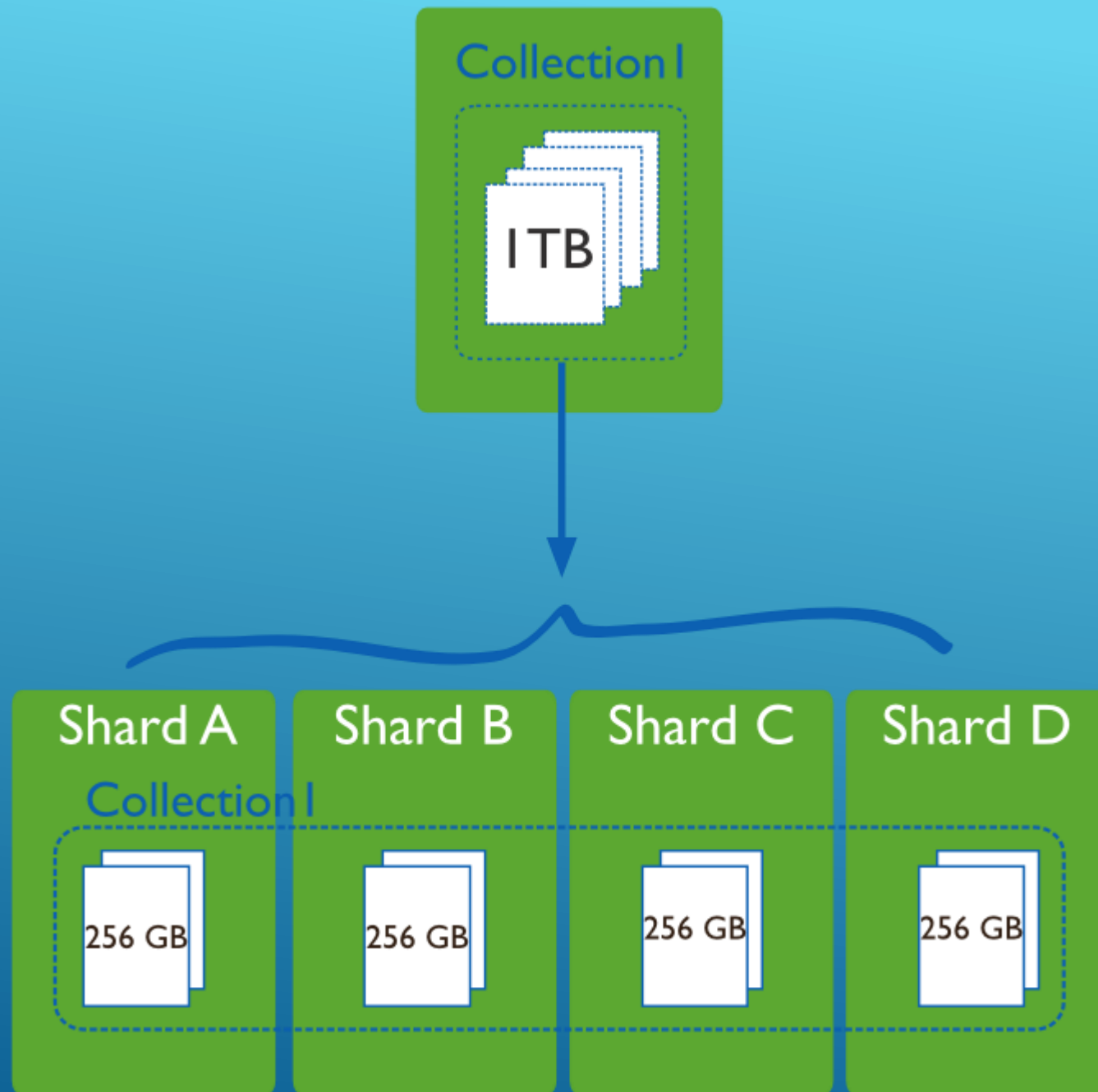


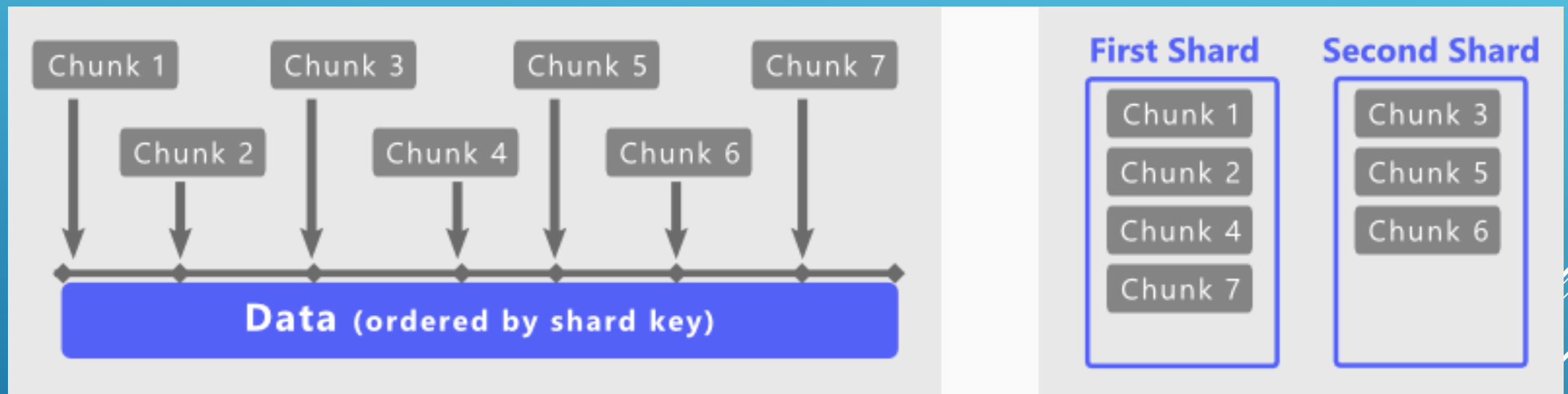
Vertical

vs.

Horizontal







A .... D .... G ..... K ..... O ..... S ..... W ..... Z



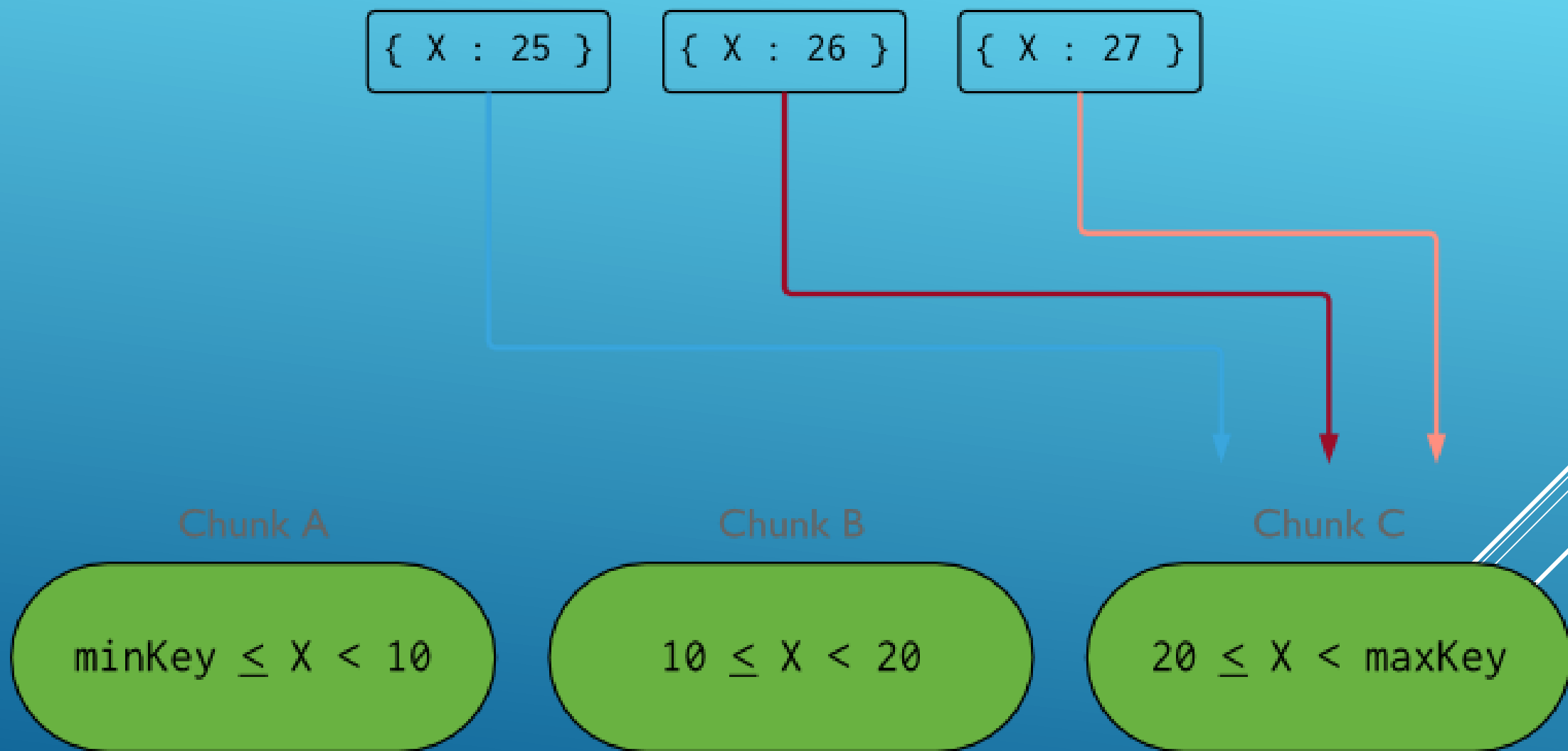


## Pola

- ▶ `_id`
- ▶ `From`
- ▶ `To`
- ▶ `Count`
- ▶ `Timestamp`

## Nieodpowiednie Shard Key

- ▶ `{"count": 1}` – większość rekordów ma `count < 1000`, tylko nieliczne poza tą grupą
- ▶ `{"timestamp": 1}` – dlaczego?
- ▶ `{"_id": 1}` - dlaczego?



## Pola

- ▶ `_id`
- ▶ `From`
- ▶ `To`
- ▶ `Count`
- ▶ `Timestamp`

## Dobre propozycje Shard Key

- ▶ `{"to": 1, "_id": 1}` – `"to"` mogłoby się czasem powtarzać – dodajemy `"_id"`
- ▶ `{"timestamp": 'hashed'}`
- ▶ `{"_id": 'hashed'}`