Part 4

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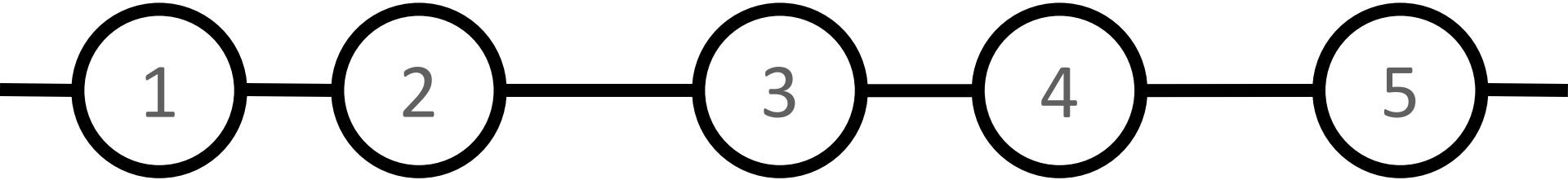
AGENDA



1. Map Reduce Overll
2. Combiner
3. With Vs Without Combiner
4. Inverted index Problem
5. End
   Questions

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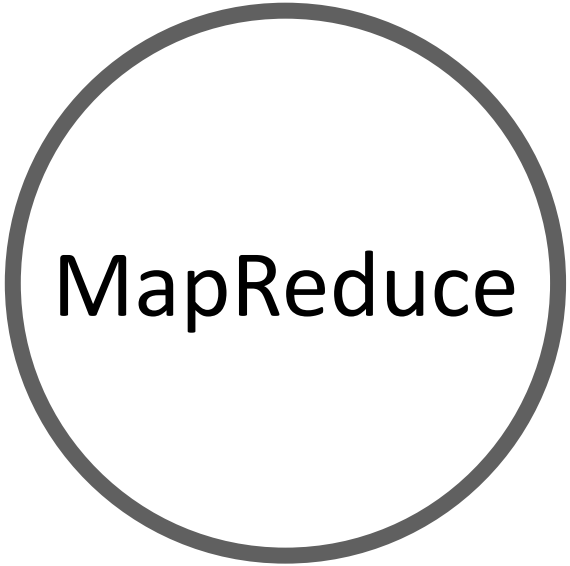

Map Reduce Stages

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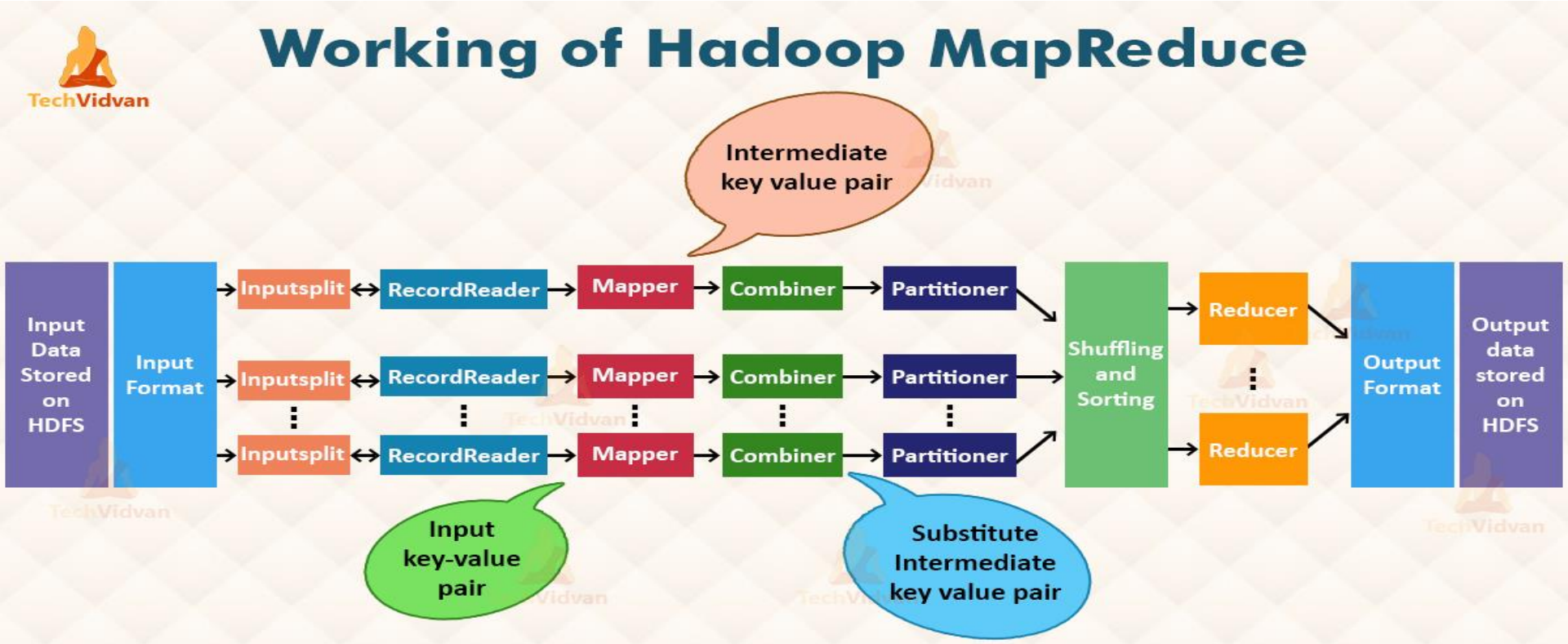
Overall stages



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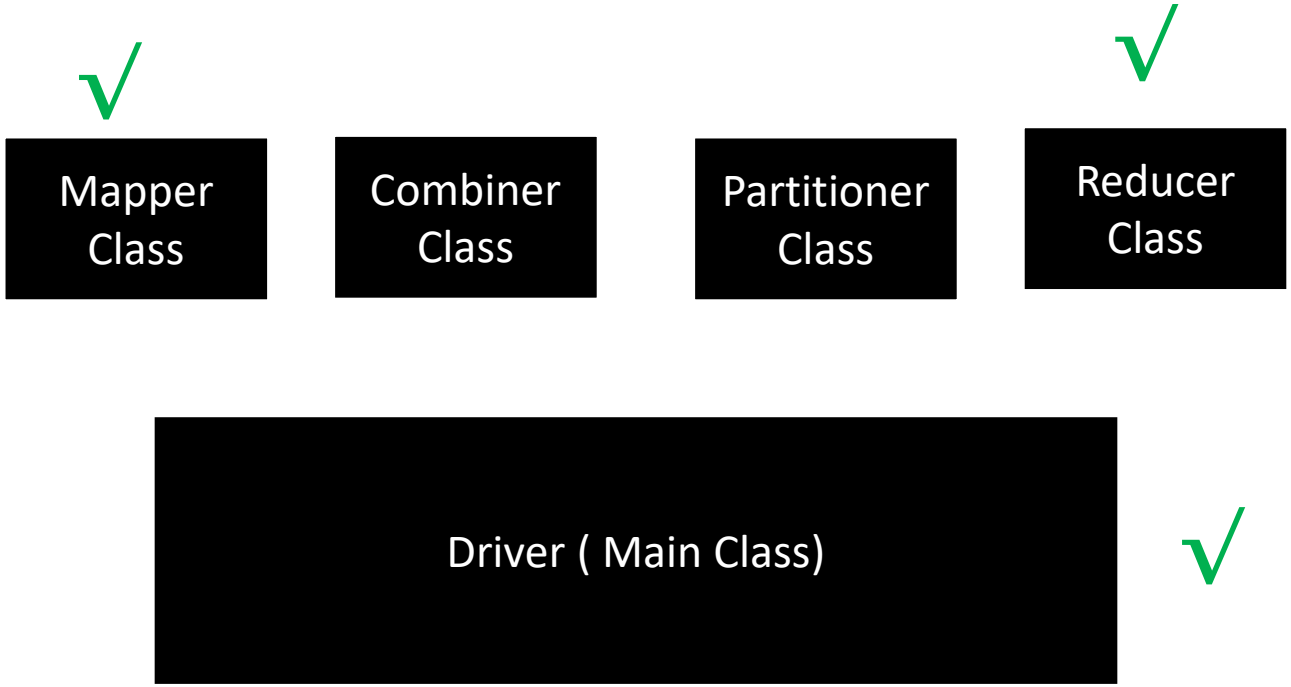
Hadoop Client Job



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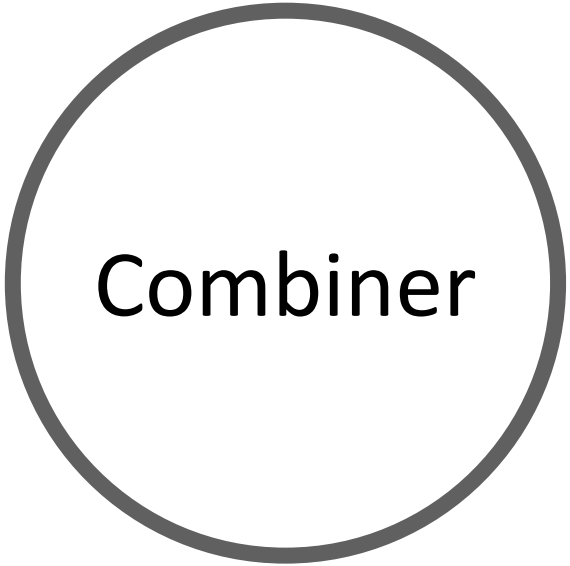

Combiner Stage

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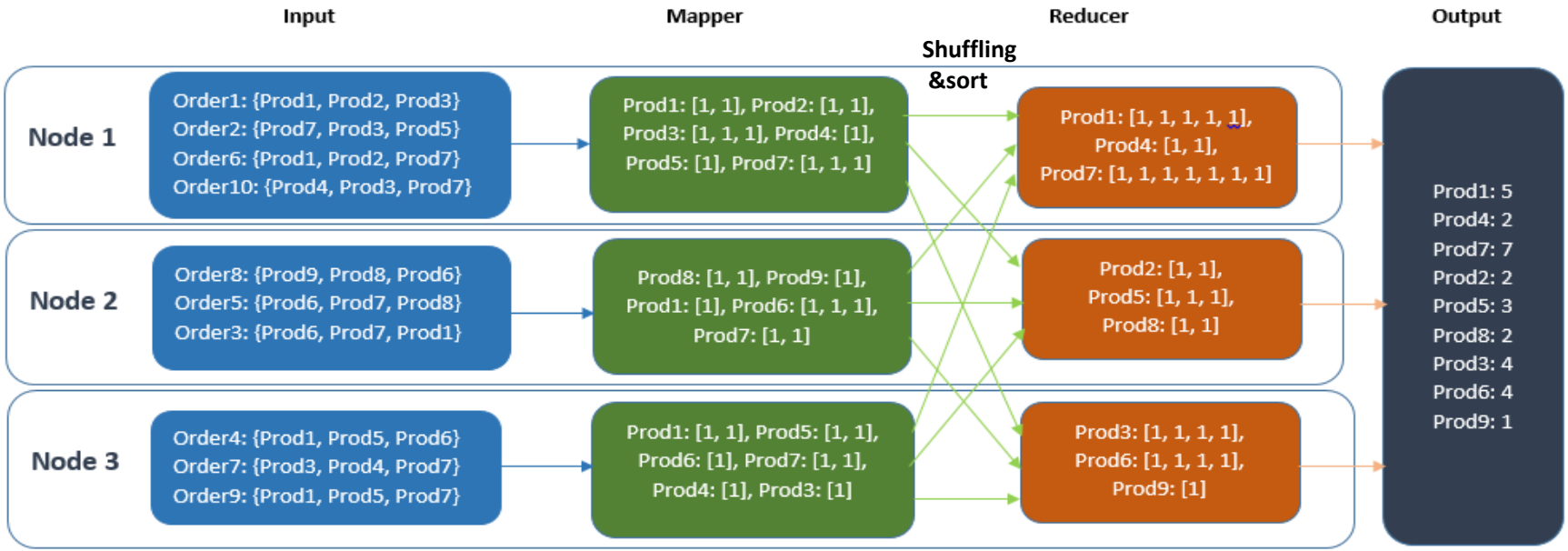
MapReduce without Combiner:



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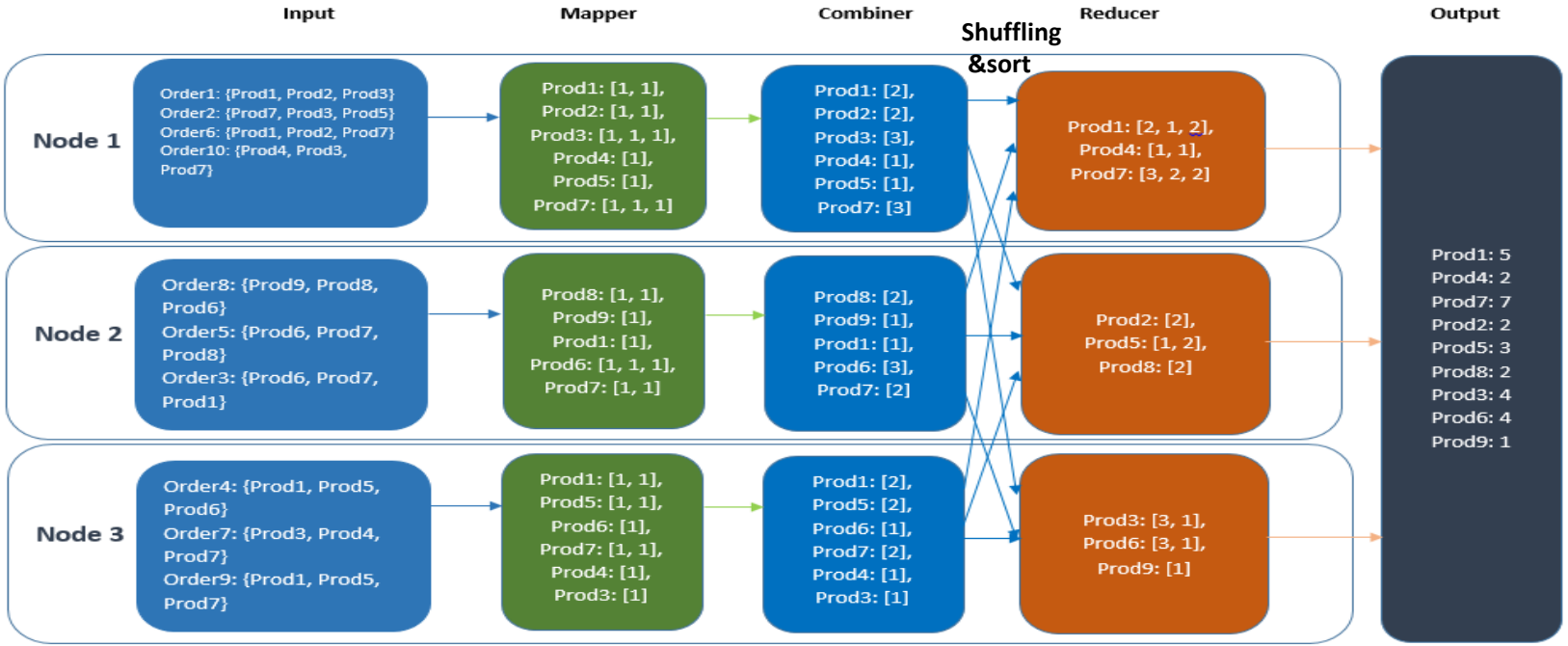
MapReduce with Combiner:



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Combiner

- Moving data in cluster is one of the bottleneck in DS.
- We need to find a way to reduce the amount of data movement in cluster.
- Mapper produce a large amount of intermediate data.
- Solution: Using mini reducer (Combiner)

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Combiner

- The Combiner class inherit the reducer class and override reduce method.
- The combiner run on the **Map-Side**.
- Combiner process on each map output <Key,Value> (Same as the reducer).
- Combiner and Reducer must have the **identical** input and output data types.
- The operation must be **associative and commutative**.

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Combiner – Reducer

- Allow Combiner:
  - Sum operation.
  - Max operation.
  - Min operation.

- Disallow Combiner:
  - Average operation .
  - Mod operation.

```
job.setMapperClass(TokenizerMapper.class);
job.setCombinerClass(IntSumReducer.class);
job.setReducerClass(IntSumReducer.class);
```


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Inverted index Problem

https://programmer.group/inverted-index-for-mapreduce-programming-development.html

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QUESTIONS

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THANK YOU!

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