

# Stateful Transformations



Streaming Context

```
graph TD; SC[Streaming Context] --> T[Transformations]; SC --> OO[Output Operations]; T --> S[Stateless]; T --> SF[Stateful]; OO --> WES[Write to External Systems]; style SF stroke:#f00,stroke-width:2px
```

Transformations

Output Operations

Stateless

Stateful

Write to External  
Systems

# What Is Stateful Streaming

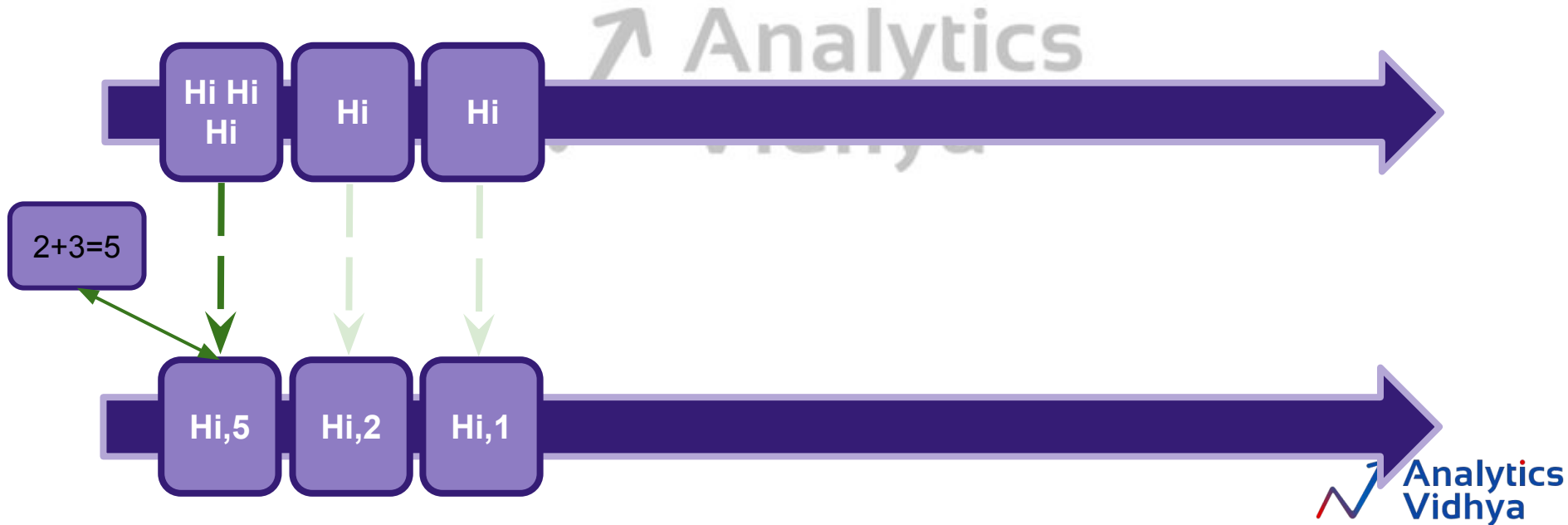
*Stateful stream processing* means that a "state" is shared between events and therefore past events can influence the way current events are processed



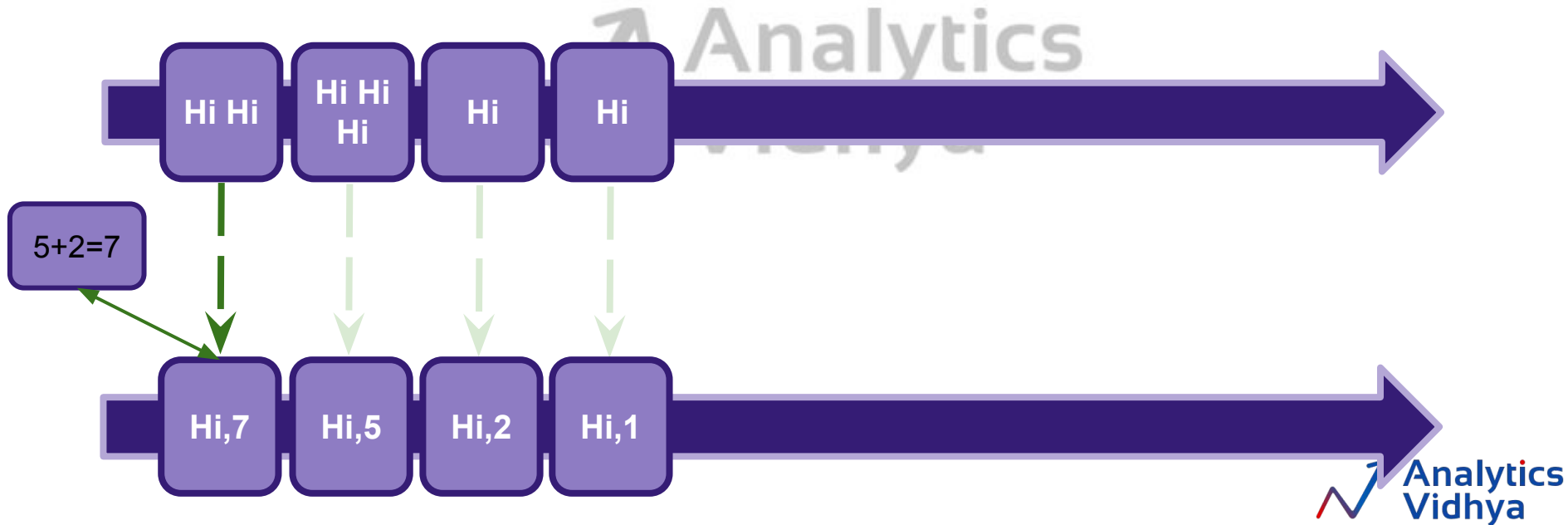
# What Is Stateful Streaming



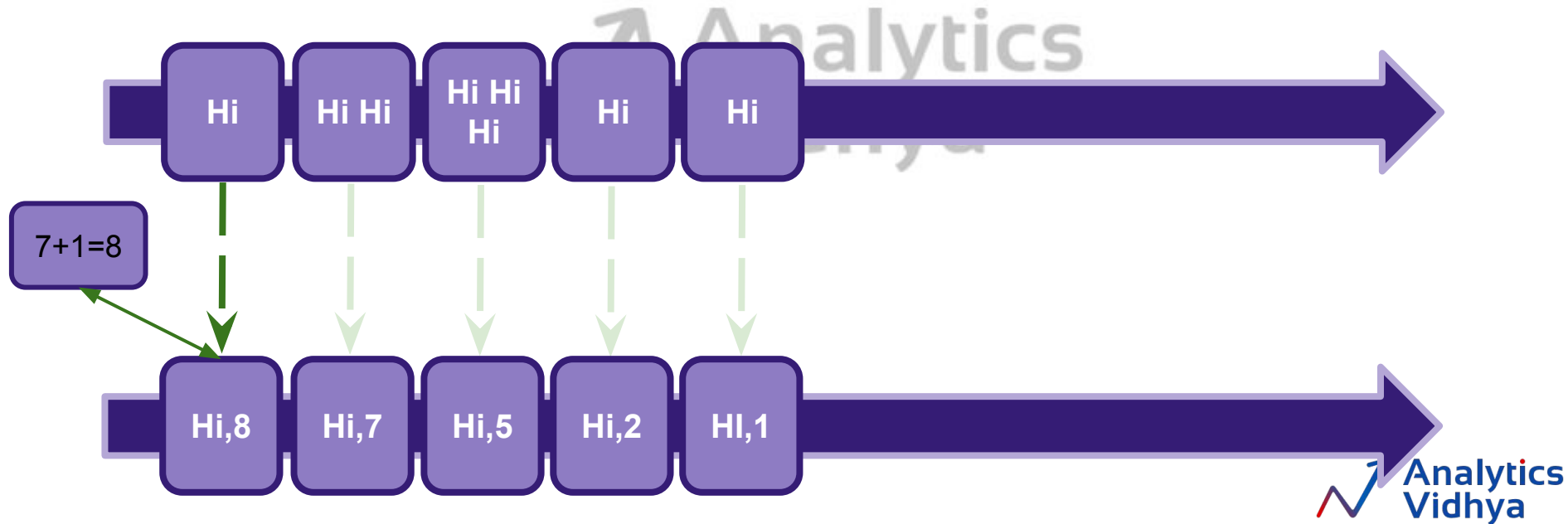
# What Is Stateful Streaming



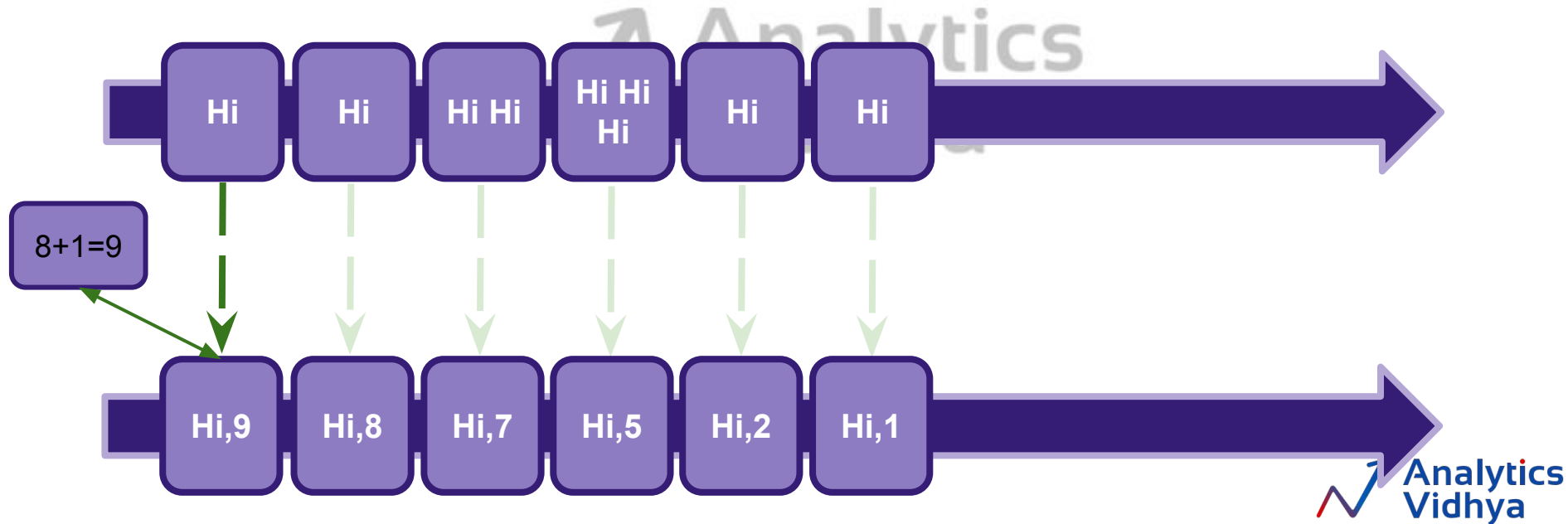
# What Is Stateful Streaming



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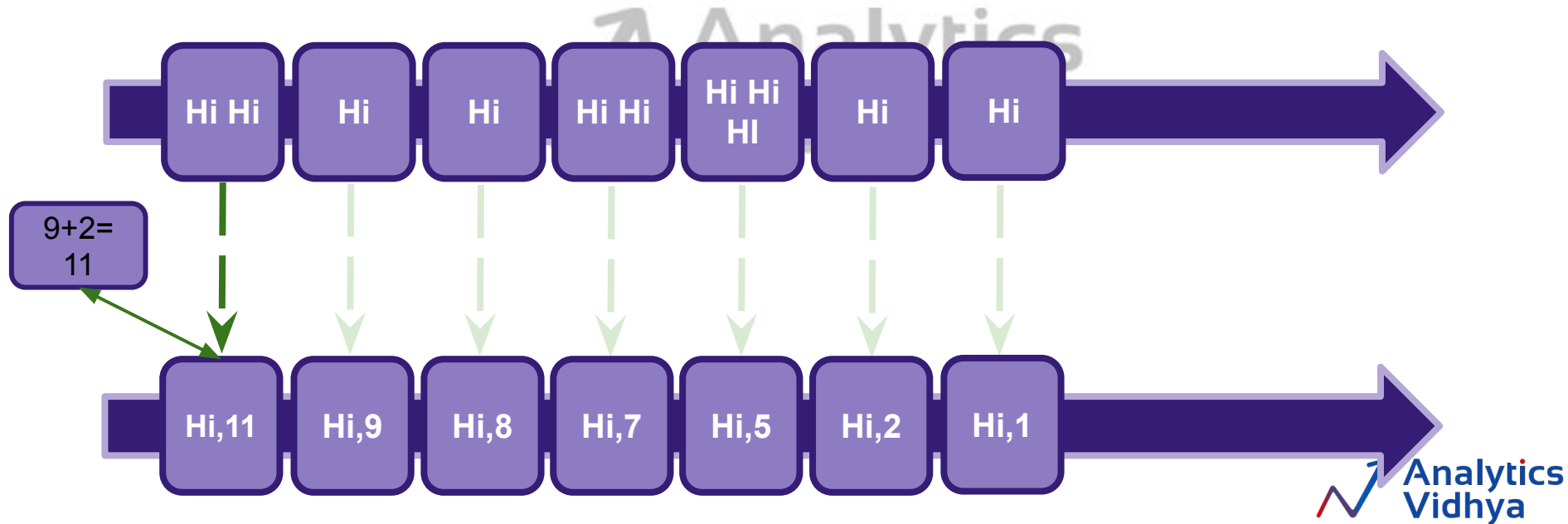


# What Is Stateful Streaming

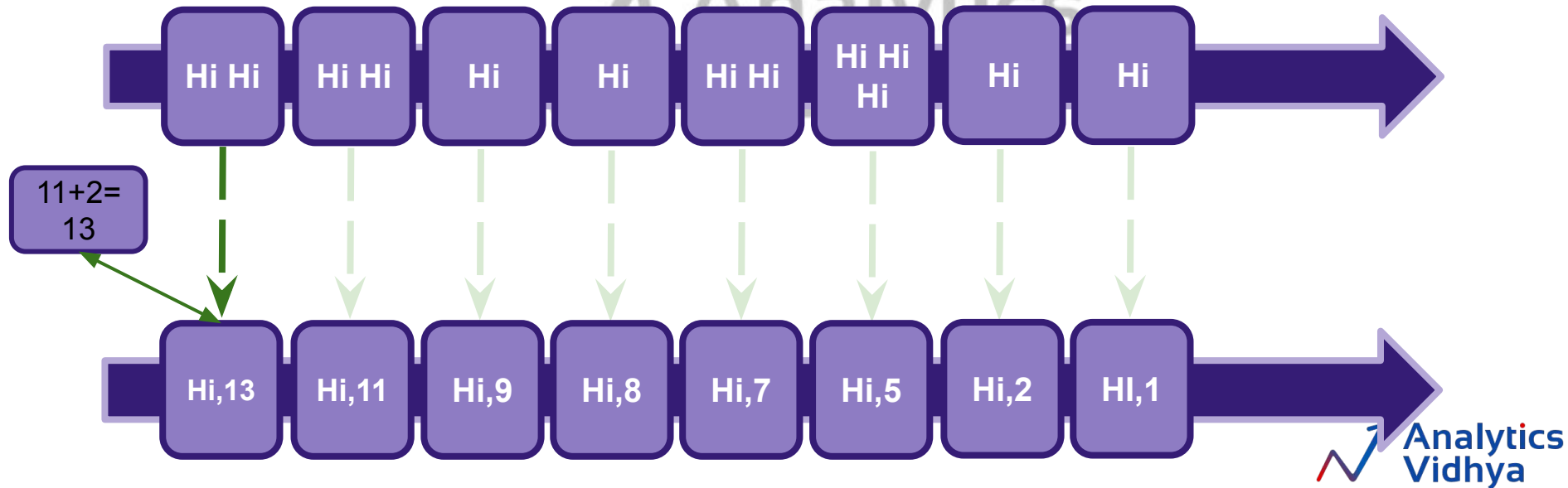




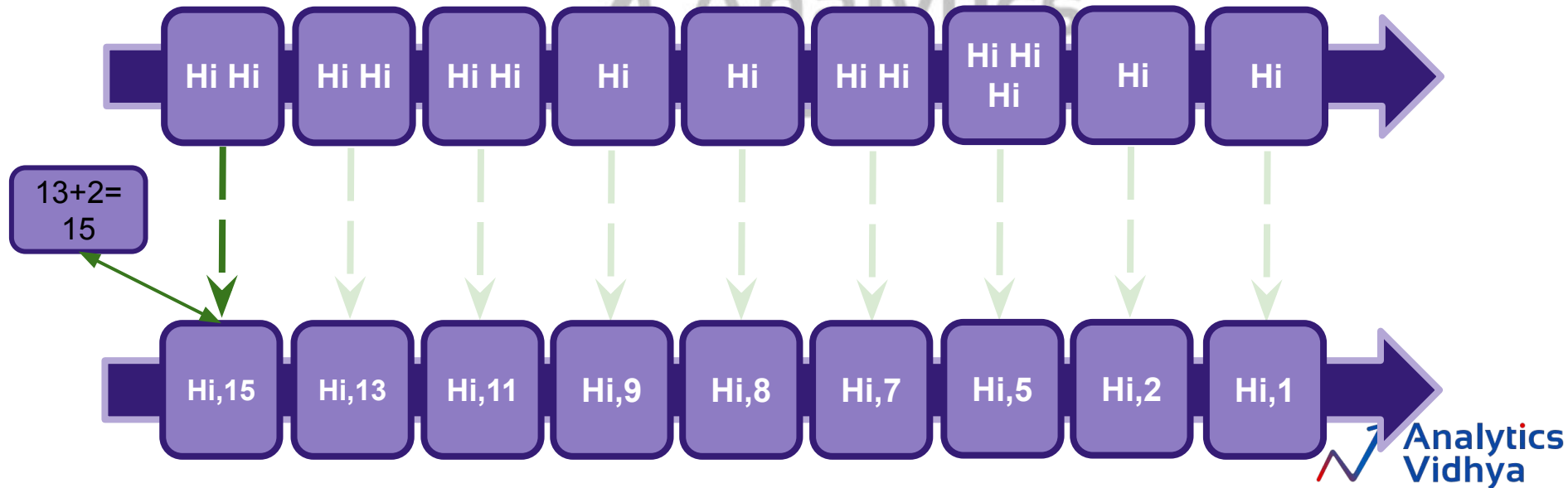
# What Is Stateful Streaming



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# What Is Stateful Streaming



# Stateful Operation

- Two main types:
  - Full session tracking
  - Windowed operations

# Stateful transformations

## Full Session Tracking

updateStateByKey()  
mapWithState()

## Windowed Operations

window()  
countByWindow()  
reduceByWindow()  
reduceByKeyAndWindow()  
countByValueAndWindow

 Thank You  
Analytics  
Vidhya