Algorithm

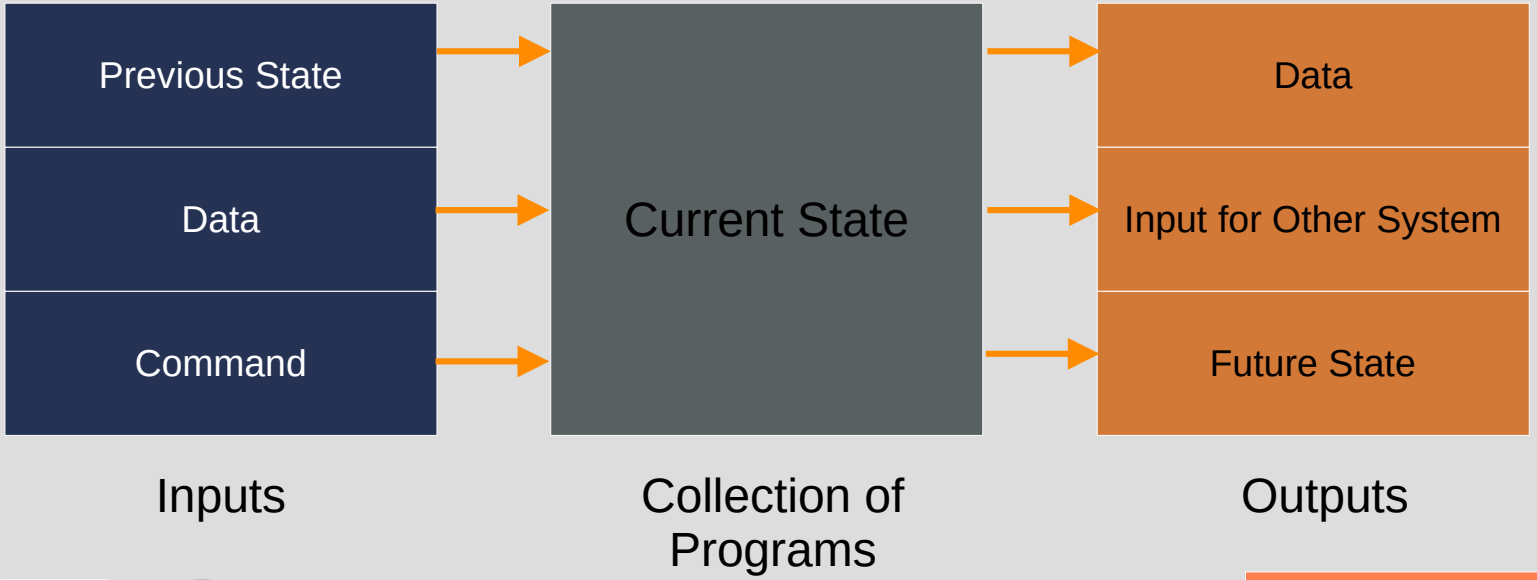
¿ Keep this with you for technologies learning

- Handling Data
- Handling State of the system
- Computing Algorithms

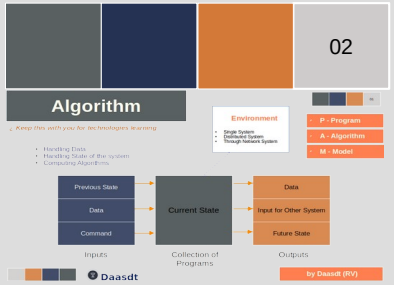
Environment

- Single System
- Distributed System
- Through Network System

- **P - Program**
- **A - Algorithm**
- **M - Model**



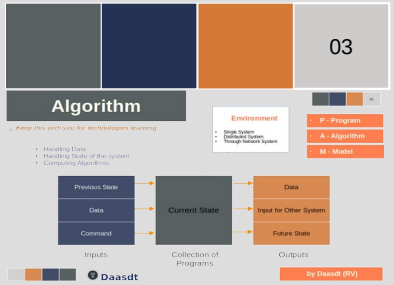
DS for Storage



- File storage format are DS for Storage
- Thinking points – CHOOSE formats
  - Type of data
  - Use of data
  - Efficiency for storage and access
  - Schema Evaluation
  - Read / Write Performance
  - Distributed System access
  - System State Storage

- Data Structures for Storage
- Handling Input / Output of System

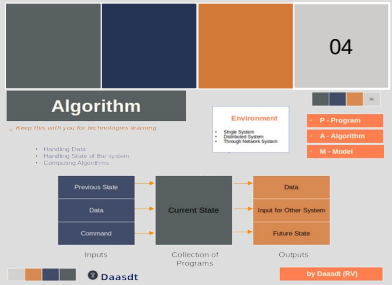
DS- Serialization



- Format Conversion
- To Handle
  - Store
  - Transmit
  - Re Construct to original format
- Of Object , DS or Program State
- In File Store , Sent in Network or DB

- A Process to convert the format to handle any objects or DS or Program State in current complex environments

DS (Storage)

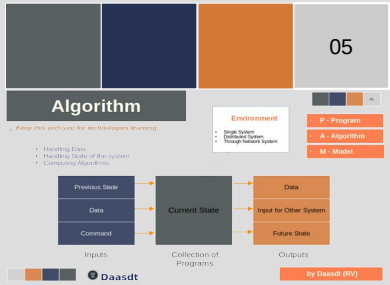


- Data size Can fit
  - CSV
  - XML
  - JSON
  - YAML
- Data structure for Storage basic formats
- Handling data in Single System

Daasdt

by Daasdt (RV)

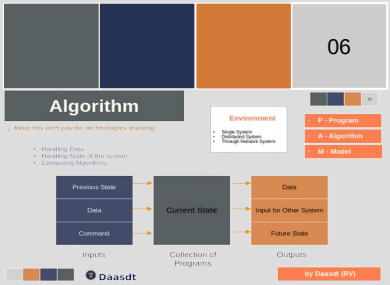
DS (Storage)



- **Distributed Memory**
  - Avro
  - ORC
  - Parquet
  - HDF5
  - Feather
  - Thrift
  - MessagePack
  - NetCDF

- Data structure for Storage – Large volume and Distributed formats

DS (Storage)

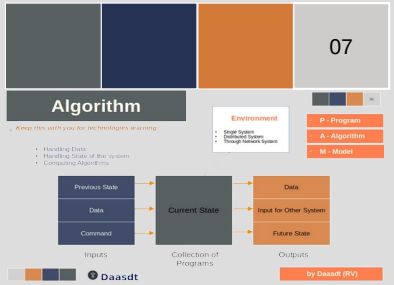


- **Distributed & ACID**

- **Delta Lake**
- **Iceberg**
- **Hudi**
- **Zarr**
- **ProtoBuf**

- **Data structure for Storage – Advanced Formats**

Physical (Storage)



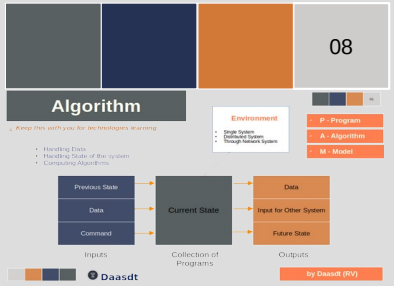
- **TEXT BASED**
- Store data in human readable formats
- Using more bytes to store
- Eg : JSON , XML , CSV etc..

- Text Based
- Binary Based

Daasdt

by Daasdt (RV)

Physical (Storage)



- **BINARY BASED**
- Encode machine readable compact
- Using fewer bytes
- Faster to process , store and transit
- Machine readable fromat.

- Text Based
- Binary Based

- Decode to human read