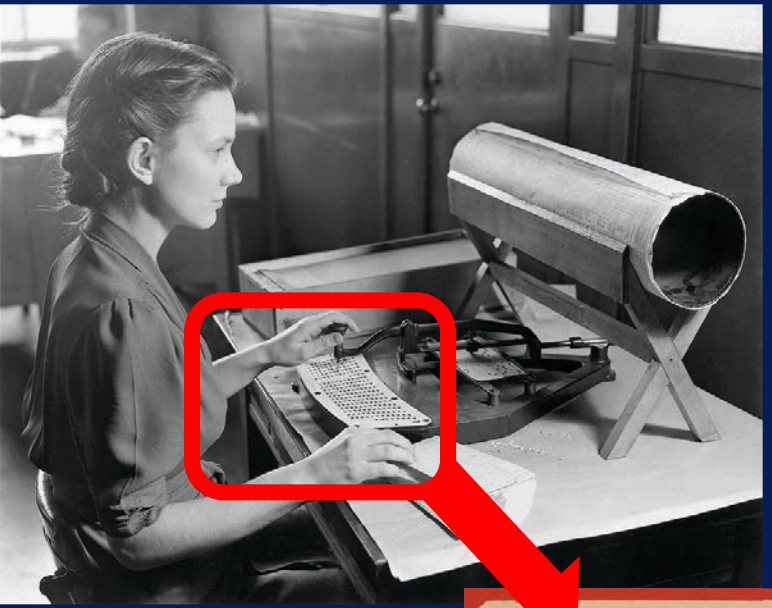
What is a Distributed File System?:

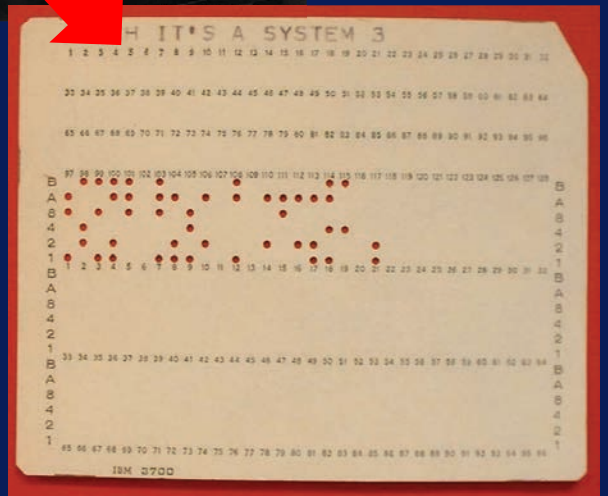
Why are there so many?

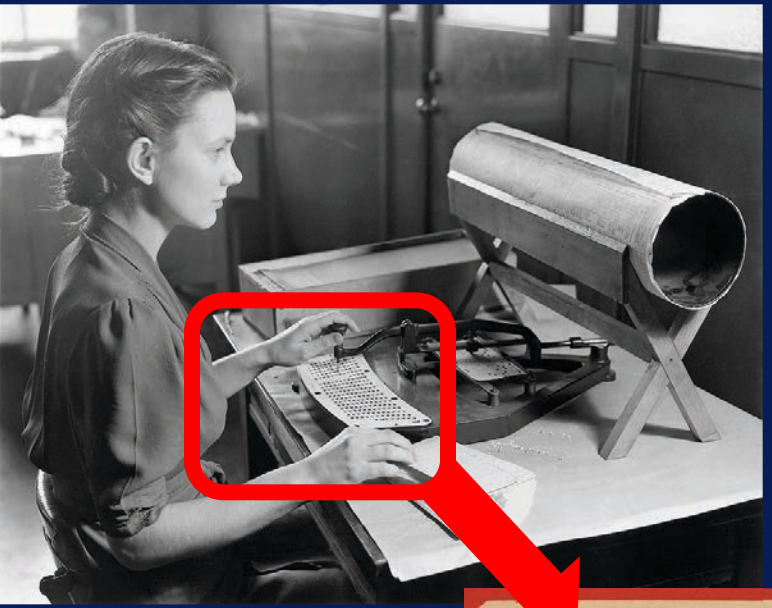
After this video you will be able to..

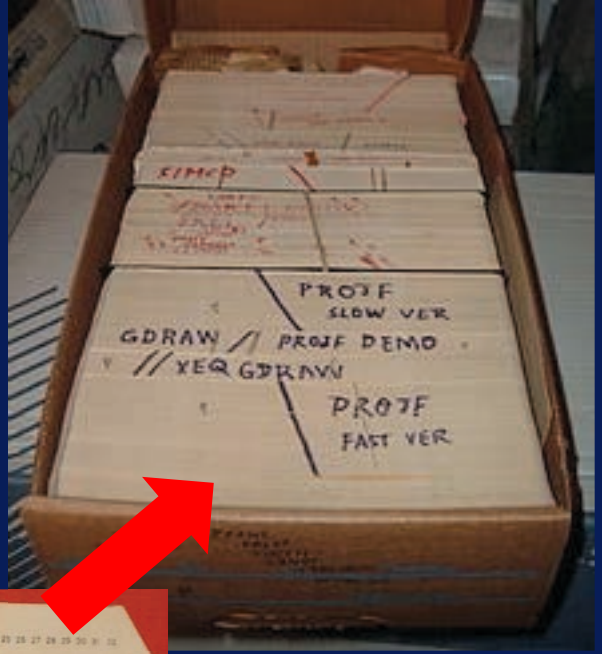
- Describe what a file system is
- Explain the reasons to have distributed file systems and how it helps big data analysis
- Visualize the organization of data in physical compute and storage nodes for big data architectures

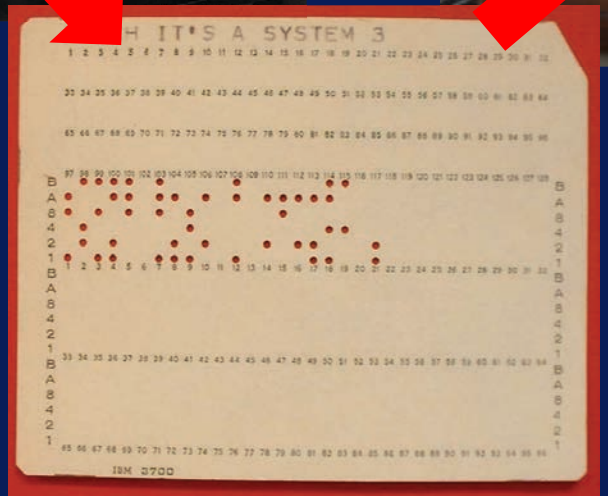

Auto Records
Auto Service
Career History
Other Deductions
DONATIONS
Interest Paid
Bank SAVINGS
Bank JOINT
Bank CHECKING
Credit Card
Retirement Account
Mortgage Statements
STATEMENTS, PAID BILLS, RECEIPTS




H IT'S A SYSTEM 3
IBM 2700




PROJF
SLOW VER
GDRAW // PROJF DEMO
// XEQ GDRAW
PROJF
FAST VER


H IT'S A SYSTEM 3
IBM 3700

Long-term information storage

Long-term information storage

Access result of a process later

Long-term information storage

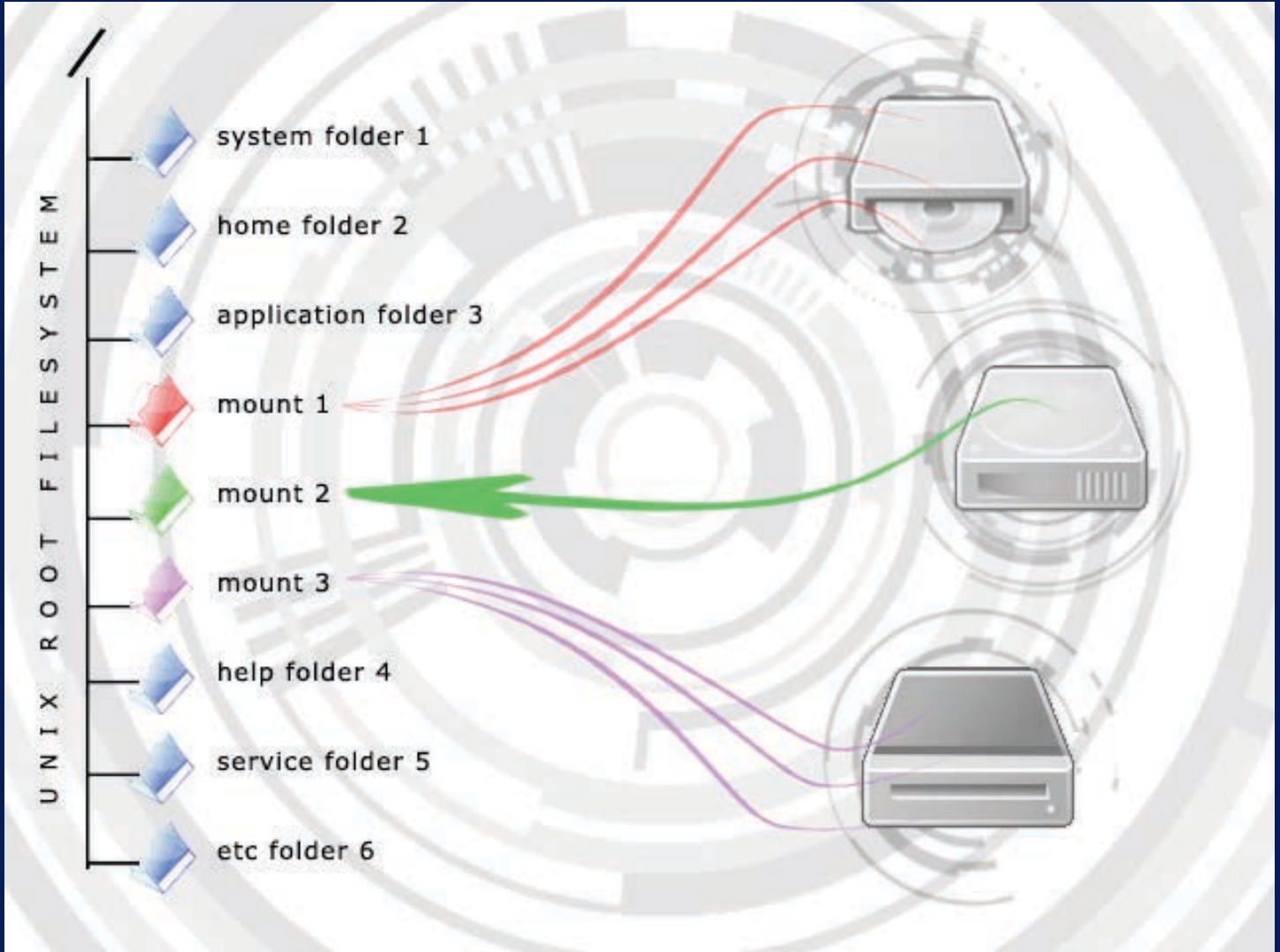
Access result of a process later

Store large amounts of information

Long-term information storage

- Access result of a process later
- Store large amounts of information
- Enable access of multiple processes

File


/
UNIX ROOT FILESYSTEM
system folder 1
home folder 2
application folder 3
mount 1
mount 2
mount 3
help folder 4
service folder 5
etc folder 6

Accessing files

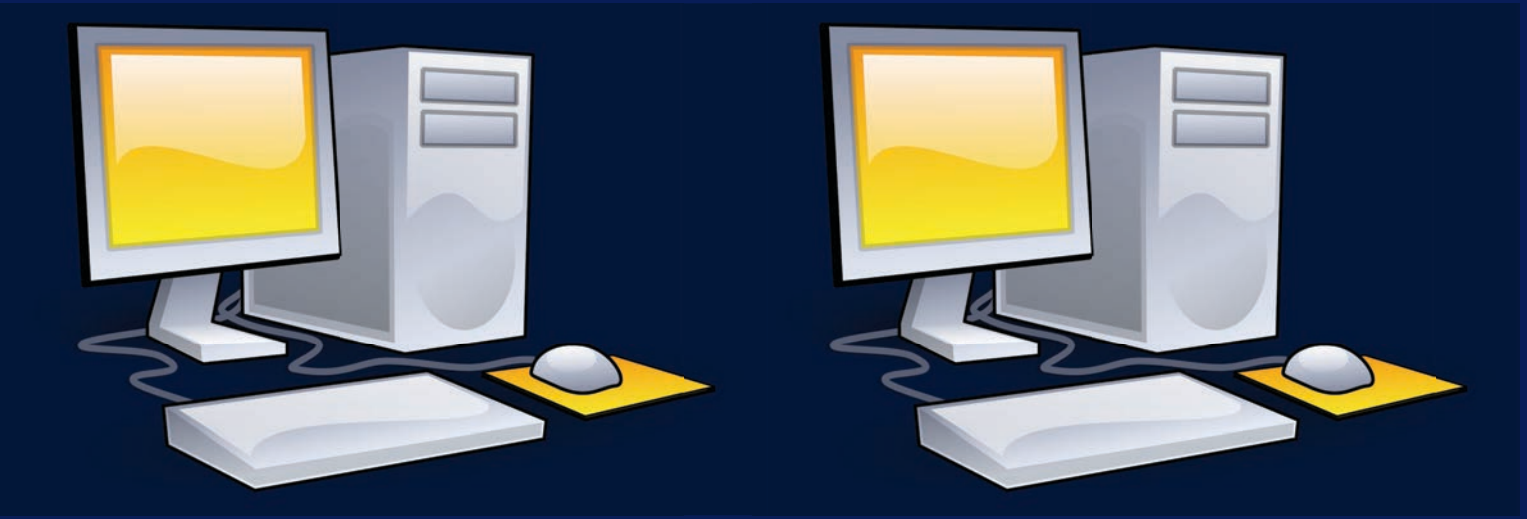

64GB
256GB
1TB
5TB

? What if you have more data?

Buy a bigger disk?

OR

Copy data to an external hard drive?



WORK

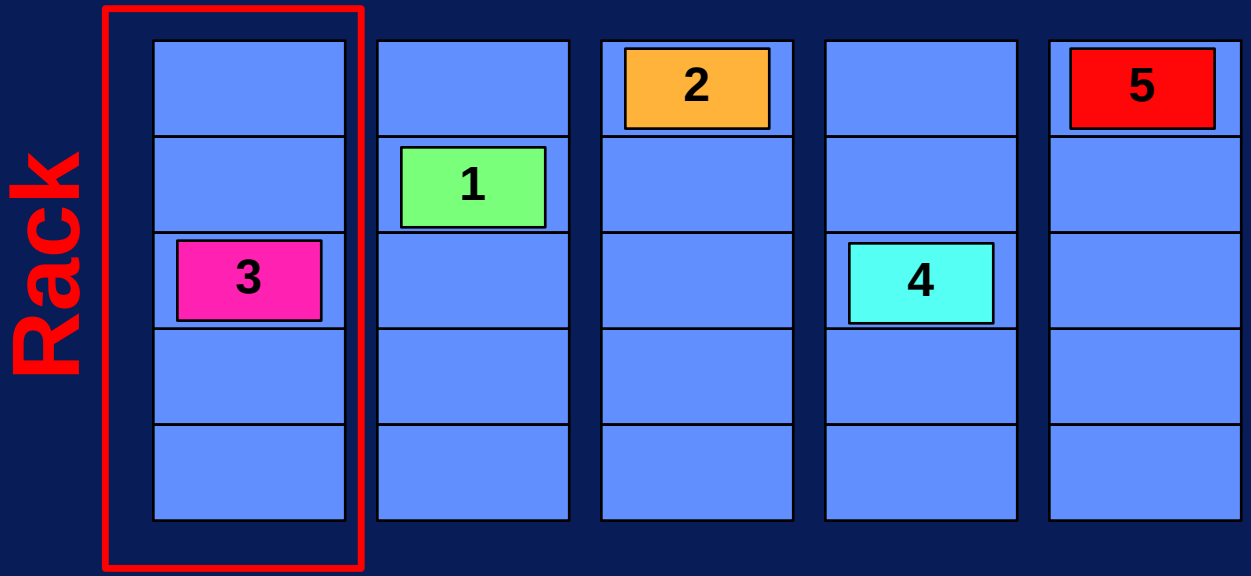
PERSONAL

Rack

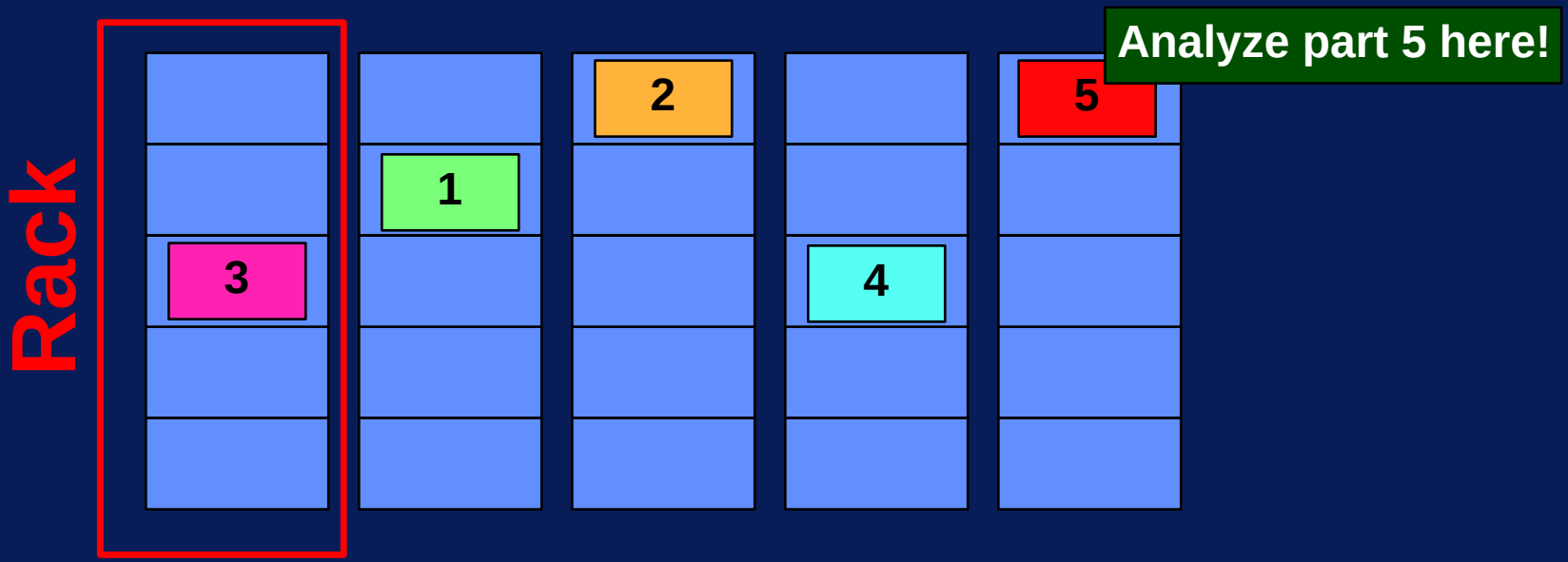
Rack

Distributed File System (DFS)

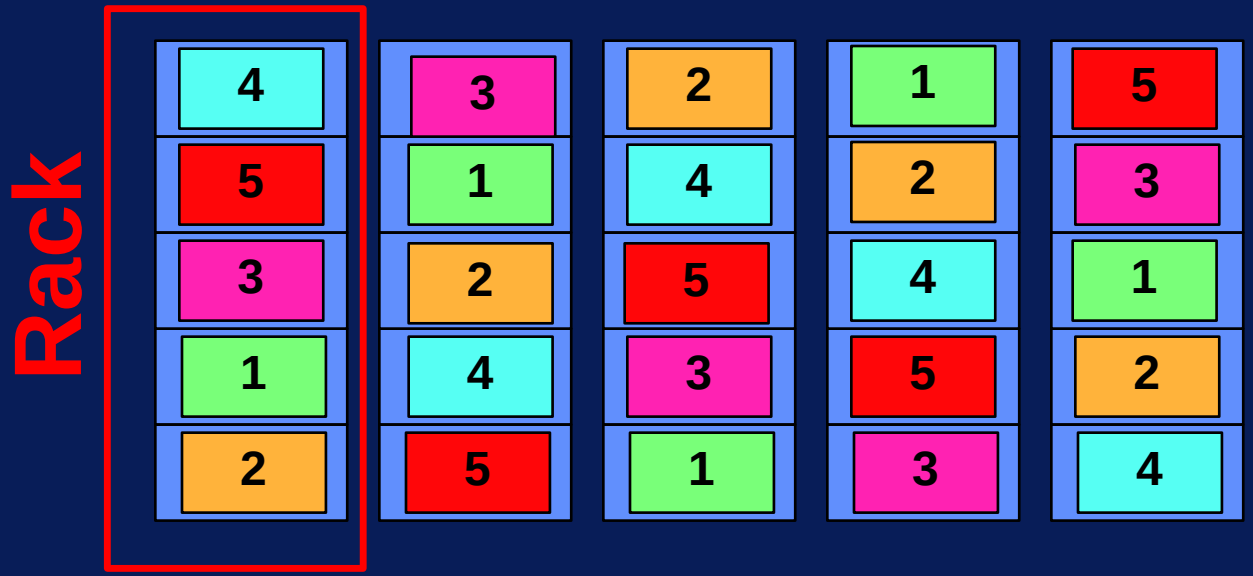
Data



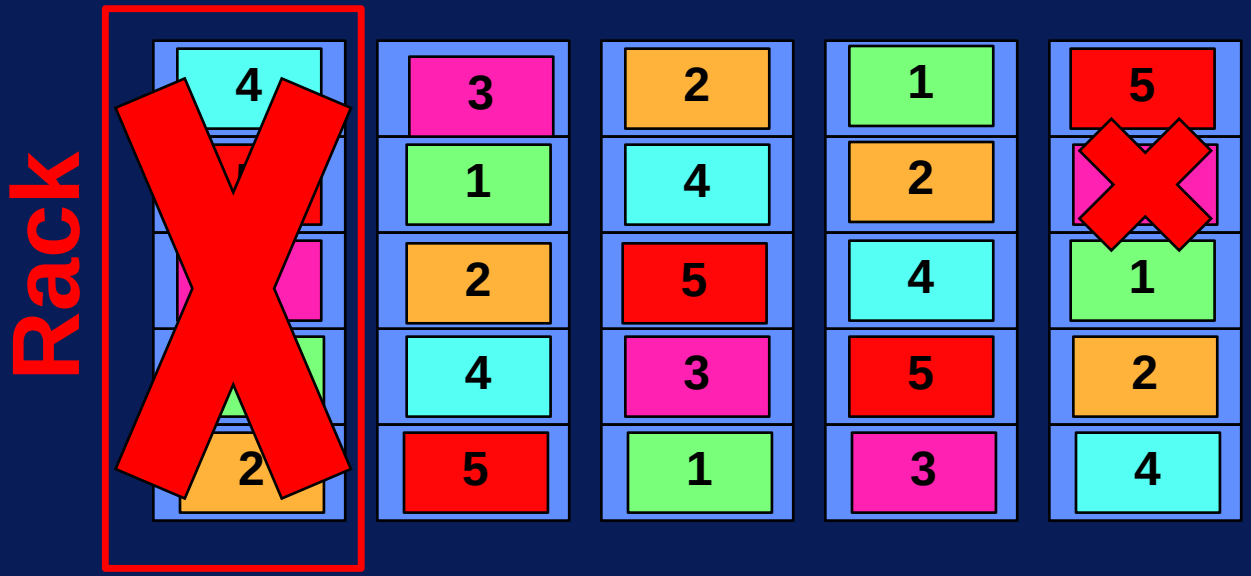
Data



Data

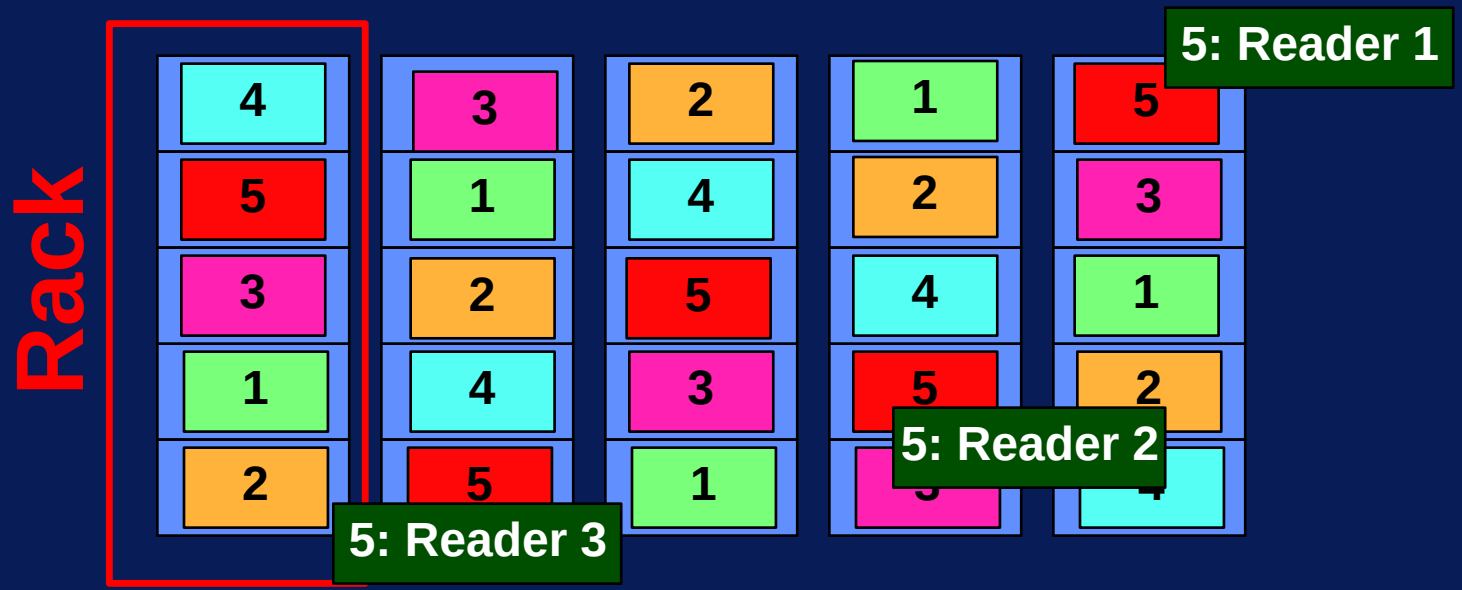


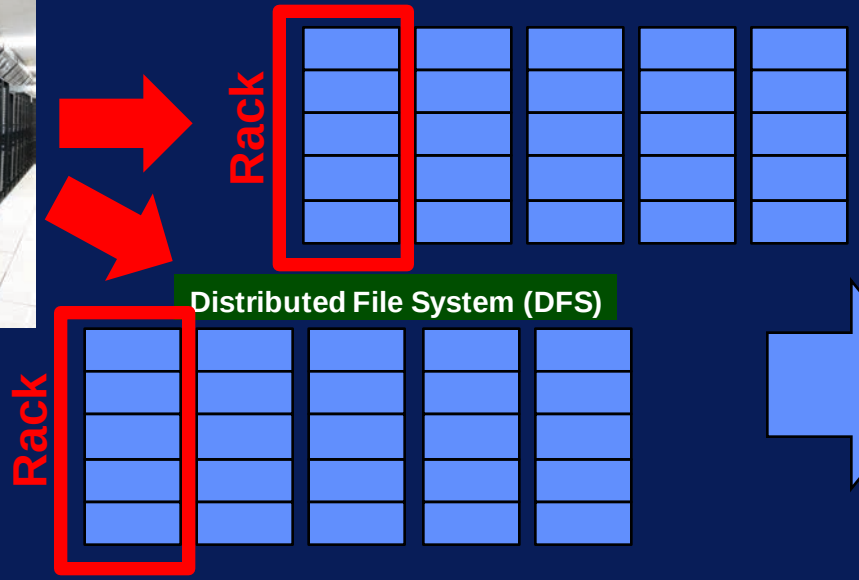
Data



Data

High Concurrency vs. Low Consistency





Data partitioning

Data replication

Data scalability

Fault tolerance

High concurrency