LESSON 10

report.awk

```
NR == FNR {
  name[$1] = $2; next
}
{ print name[$1], $2 }
```

AWK

Files & I/O

Learn it all @MyWebUniversity



A FREE MYWEBUNIVERSITY COURSE

AWK SCRIPTING

LESSON 10

Multiple Files and I/O

FNR, joining two files, getline, pipes and system()

FNR vs NR

terminal

```
$ awk 'FNR == 1 { print "==>", FILENAME } { print FNR, NR, $0 }' a.txt b.txt
==> a.txt
1 1 alpha
2 2 beta
==> b.txt
1 3 gamma
```

- When you give AWK several files, NR keeps counting across all of them, but FNR restarts at …
- So FNR equals one marks the start of every file, and FILENAME tells you which file you are in.

01

Joining Two Files

join.awk

```
# usage: awk -f join.awk names.txt scores.txt
NR == FNR { name[$1] = $2; next }      # first file: id -> name
{ print name[$1], $2 }                  # second file: id score

# names.txt : 101 Mariam      scores.txt: 101 95
# output    : Mariam 95
```

- The NR equals FNR trick is true only while reading the first file. Use it to load a lookup …
- Here the first file maps student IDs to names, and the second file has scores by ID. AWK …

02

getline and Pipes

stamp.awk

```
BEGIN {
    "date +%F" | getline today
    close("date +%F")
    "hostname" | getline host
}
{ print today, host, $0 }
```

- getline reads the next line yourself. The most useful form runs a command and reads its …
- This lets AWK ask the system for the date, the hostname, or any other value while it works.

03

Sending Output to Commands

pipes.awk

```
{ total[$3] += $2 }
END {
    for (c in total) print total[c], c | "sort -rn"
    close("sort -rn")
    system("echo report done")
}
```

- print can also pipe into a command: print, then a bar, then sort in quotes. AWK keeps that …
- system runs a shell command and returns its exit status. Use it with care, and never with …

04

AWK in Shell Pipelines

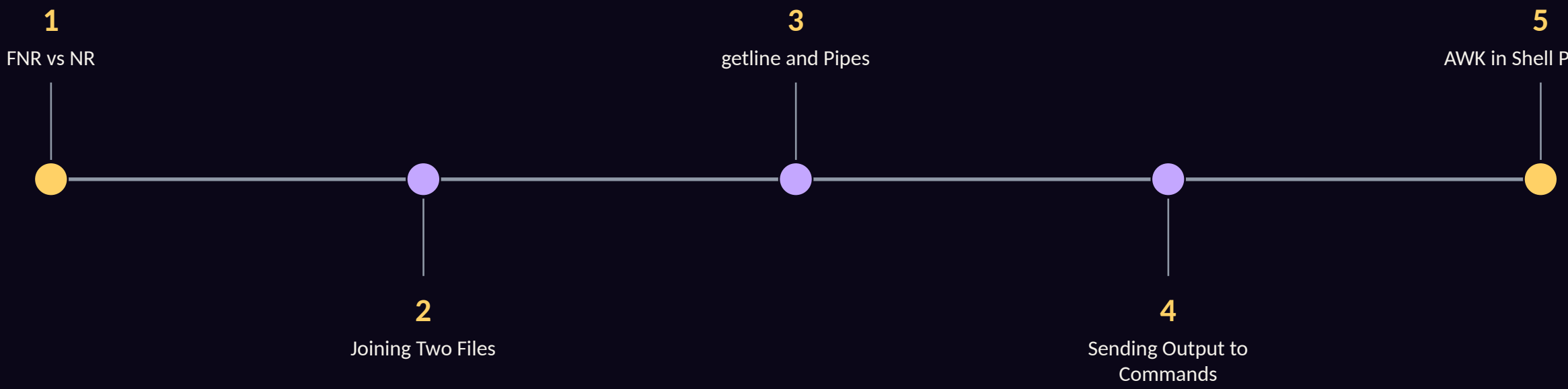
terminal

```
$ df -h | awk 'NR > 1 && $5+0 > 80 { print $6, $5 }'      # disks over 80%
$ ps aux | awk '{ mem[$1] += $6 } END { for (u in mem) print u, mem[u] }'
$ ls -l | awk '{ s += $5 } END { print s / 1024 / 1024, "MB" }'
```

- AWK is happiest in the middle of a pipeline: commands produce text, AWK shapes it, and …
- Here df, ps and ls are turned into clean answers with one short AWK step each.

05

Lesson Map


1
FNR vs NR
2
Joining Two Files
3
getline and Pipes
4
Sending Output to Commands
5
AWK in Shell Pipelines

Sources and Further Reading

terminal

```
$ awk 'FNR == 1 { print "==>", FILENAME } { print FNR, NR, $0 }' a.txt b.txt
==> a.txt
1 1 alpha
2 2 beta
==> b.txt
1 3 gamma
```

AWK SCRIPTING · 10

stamp.awk

```
BEGIN {
    "date +%F" | getline today
    close("date +%F")
    "hostname" | getline host
}
{ print today, host, $0 }
```

Thank you for watching

MyWebUniversity.com

Free technical education since 2000 — English and Dari

@MyWebUniversity · @MyWebUniversity-Dari