Chapter 2

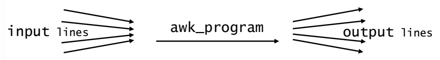
Introduction to awk

Overview

- What is awk
- Record Processing
- Printing with awk
- Examples

What is awk

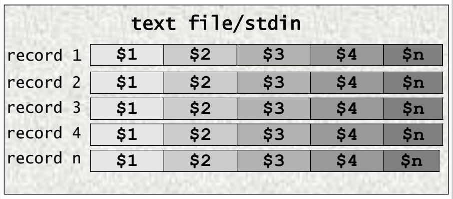
- awk is a pattern scanning and processing utility, with its own programming language
  - very similar to the C programming language
- awk has regular expression pattern-matching capability.



- Syntax:

```
awk [options] '[pattern] [{action}] ...' [file ...]
awk [options] -f progfile ... [file ...]
```

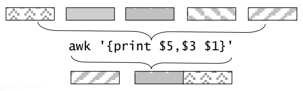
Record Processing



Printing with awk

Program	Description
/RE/	Pattern matching will (by default) print the current line.
{print}	Default to printing the entire (current) input line.
{print $n}	Print the contents of field n.

- If the fields being printed are separated by a comma, the default output field separator (one space) is inserted.



Examples

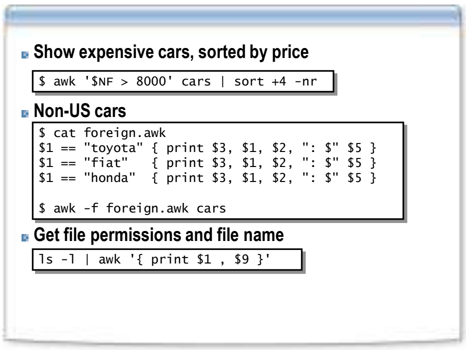
- Show cars older than 1981

```
$ awk'$3 <= 80 { print "1980 or older:",$1,$2 }' cars
```

- Same with awk program file

```
$ cat 80older.awk
BEGIN { print "1980 or older"
        print "_____________"
}

$3 <= 80 { print $1,$2,"Year:",$3,"Price:",$5 }


$ awk -f 80older.awk cars
```

Examples (continued)



- Show expensive cars, sorted by price

```
$ awk '$NF > 8000' cars | sort +4 -nr
```

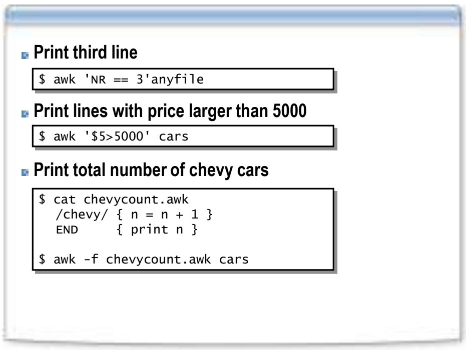
- Non-US cars

```
$ cat foreign.awk
$1 == "toyota" { print $3, $1, $2, ": $" $5 }
$1 == "fiat"   { print $3, $1, $2, ": $" $5 }
$1 == "honda"  { print $3, $1, $2, ": $" $5 }

$ awk -f foreign.awk cars
```

- Get file permissions and file name

```
ls -l | awk '{ print $1 , $9 }'
```

Examples (continued)



- Print third line

```
$ awk 'NR == 3'anyfile
```

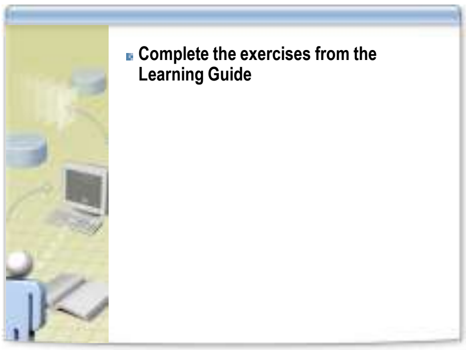
- Print lines with price larger than 5000

```
$ awk '$5>5000' cars
```

- Print total number of chevy cars

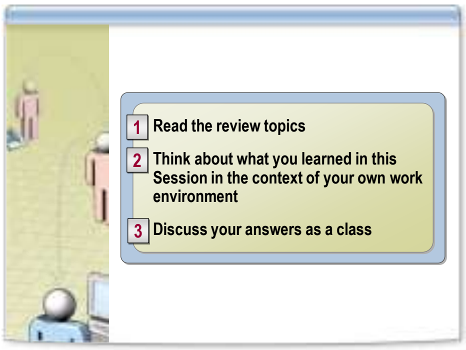
```
$ cat chevycount.awk
  /chevy/ { n = n + 1 }
  END     { print n }

$ awk -f chevycount.awk cars
```

Review Exercises



- Complete the exercises from the Learning Guide

Topics for Review



1 Read the review topics

2 Think about what you learned in this Session in the context of your own work environment

3 Discuss your answers as a class