

WHAT IS AWK COMMAND?

Awk is a scripting language used for manipulating data and generating reports. The awk command programming language requires no compiling and allows the user to use variables, numeric functions, string functions, and logical operators.

WHAT CAN WE DO WITH AWK?

1. **AWK Operations:**

- (a) Scans a file line by line
- (b) Splits each input line into fields
- (c) Compares input line/fields to pattern
- (d) Performs action(s) on matched lines

2. **Useful For:**

- (a) Transform data files
- (b) Produce formatted reports

3. **Programming Constructs:**

- (a) Format output lines
- (b) Arithmetic and string operations
- (c) Conditionals and loops

SYNTAX

```
awk options 'selection_criteria {action}' input-file >
output-file
```

Print the lines which match the given pattern

```
[root@vivek ~]# cat employee.txt
ajay manager account 45000
sunil clerk account 25000
varun manager sales 50000
amit manager account 47000
tarun peon sales 15000
deepak clerk sales 23000
sunil peon sales 13000
satvik director purchase 80000
[root@vivek ~]# awk '/manager/ {print}' employee.txt
ajay manager account 45000
varun manager sales 50000
amit manager account 47000
[root@vivek ~]#
```

AWK COMMAND

Splitting a Line Into Fields

```
[root@vivek ~]# cat employee.txt
ajay manager account 45000
sunil clerk account 25000
varun manager sales 50000
amit manager account 47000
tarun peon sales 15000
deepak clerk sales 23000
sunil peon sales 13000
satvik director purchase 80000
[root@vivek ~]# awk '{print $1,$4}' employee.txt
ajay 45000
sunil 25000
varun 50000
amit 47000
tarun 15000
deepak 23000
sunil 13000
satvik 80000
[root@vivek ~]#
```

Use of NR built-in variables (Display Line Number)

```
[root@vivek ~]# cat employee.txt
ajay manager account 45000
sunil clerk account 25000
varun manager sales 50000
amit manager account 47000
tarun peon sales 15000
deepak clerk sales 23000
sunil peon sales 13000
satvik director purchase 80000
[root@vivek ~]# awk '{print NR,$0}' employee.txt
1 ajay manager account 45000
2 sunil clerk account 25000
3 varun manager sales 50000
4 amit manager account 47000
5 tarun peon sales 15000
6 deepak clerk sales 23000
7 sunil peon sales 13000
8 satvik director purchase 80000
[root@vivek ~]#
```

Use of NF built-in variables (Display Last Field)

```
[root@vivek ~]# cat employee.txt
ajay manager account 45000
sunil clerk account 25000
varun manager sales 50000
amit manager account 47000
tarun peon sales 15000
deepak clerk sales 23000
sunil peon sales 13000
satvik director purchase 80000
[root@vivek ~]# awk '{print $1,$NF}' employee.txt
ajay 45000
sunil 25000
varun 50000
amit 47000
tarun 15000
deepak 23000
sunil 13000
satvik 80000
[root@vivek ~]#
```

AWK COMMAND

Another use of NR built-in variables (Display Line From 3 to 6)

```
[root@vivek ~]# cat employee.txt
ajay manager account 45000
sunil clerk account 25000
varun manager sales 50000
amit manager account 47000
tarun peon sales 15000
deepak clerk sales 23000
sunil peon sales 13000
satvik director purchase 80000
[root@vivek ~]# awk 'NR==3, NR==6 {print NR,$0}' employee.txt
3 varun manager sales 50000
4 amit manager account 47000
5 tarun peon sales 15000
6 deepak clerk sales 23000
[root@vivek ~]#
```

To print the first item along with the row number (NR) separated with " - " from each line

```
[root@vivek ~]# cat test.txt
A      B      C
Vivek  A12     1
Gandhi  B6      2
Praveen M42      3
[root@vivek ~]# awk '{print NR "- " $1}' test.txt
1- A
2- Vivek
3- Gandhi
4- Praveen
[root@vivek ~]#
```

To return the second row/item

```
[root@vivek ~]# cat test.txt
A      B      C
Vivek  A12     1
Gandhi  B6      2
Praveen M42      3
[root@vivek ~]# awk '{print $2}' test.txt
B
A12
B6
M42
[root@vivek ~]#
```

To find the length of the longest line present in the file

```
[root@vivek ~]# cat test.txt
A      B      C
Vivek  A12     1
Gandhi  B6      2
Praveen M42      3
[root@vivek ~]# awk '{ if (length($0) > max) max = length($0) } END { print max }' test.txt
19
[root@vivek ~]#
```

AWK COMMAND

To count the lines in a file

```
[root@vivek ~]# cat test.txt
A   B   C
Vivek   A12   1
Gandhi   B6   2
Praveen   M42   3
[root@vivek ~]# awk 'END { print NR }' test.txt
4
[root@vivek ~]#
```

Printing lines with more than 18 characters

```
[root@vivek ~]# cat test.txt
A   B   C
Vivek   A12   1
Gandhi   B6   2
Praveen   M42   3
[root@vivek ~]# awk 'length($0) > 18' test.txt
Praveen   M42   3
[root@vivek ~]#
```

