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In Part 8 of **SHARE** this Awk series, we introduced some powerful 20 Awk command features, that is variables, \bigcirc 2 numeric COMMENTS expressions and assignment

operators.

As we

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we snall cover

more Awk

features, and

that is the

special

patterns:

BEGIN and

END



Learn Awk Patterns

BEGIN and END

These special

features will

prove helpful

as we try to

expand on and

explore more

methods of

building

complex Awk

operations.

To get started,

let us drive our

thoughts back

to the

introduction of

the Awk series,

ramamhar





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started this series, I pointed out that the general syntax of a running an Awk command is:

awk 'scri

And in the syntax above, the Awk script has the form:

/pattern/

When you consider the pattern in the script, it is normally a regular expression,

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mink or

pattern as

special

patterns

BEGIN and

END

Therefore, we

can also write

an Awk

command in

the form

helow.

awk '
BEGIN { act
/pattern/ {
/pattern/ {
........
END { actio
' filenames

In the event that you use the special patterns:

BEGIN and

END in an Awk

script, this is

what each of

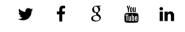
them means:

■ BEGIN

nattern:

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ınaı Awk will execute the action(s) specified in **BEGIN** once before any input lines are read. ■ END pattern: means that Awk will execute the action(s) specified in END before it actually exits. And the flow of execution of the an Awk command script which

contains these

IOIIOWS:

When the

BEGIN

pattern is

used in a

script, all

the

actions for

BEGIN are

executed

once

before any

input line

is read.

■ Then an

input line

is read

and

parsed

into the

different

fields.

■ Next, each

of the

non-special

patterns

specified

is

compared

with the

⁶⁰ Commands of Linux : A Guide from Newbies to System Admini

match, when a match is found, the action(s) for that pattern are then executed. This stage will be repeated for all the patterns you have specified.

Next,

stage 2

and 3 are

repeated

for all

input lines.

■ When all

input lines

have been

read and

dealt with,

in case

you

specify the

END

rne action(s)

will be

executed.

You should

always

remember this

sequence of

execution

when working

with the

special

patterns to

achieve the

best results in

an Awk

operation.

To understand

it all, let us

illustrate using

the example

from part 8,

about the list

of domains

owned by

Tecmint, as

stored in a file

named

domains.txt.

linuxsay.co
windows.tec
tecmint.com
news.tecmin
tecmint.com
linuxsay.co
tecmint.com
news.tecmin
tecmint.com
linuxsay.co
windows.tec
tecmint.com

\$ cat ~/dom

View Contents of File

In this example, we want to count the number of times the domain

tecmint.com

is listed in the

file

domains.txt.

So we wrote a small shell

using the idea of variables, numeric expressions and assignment operators which has the following content:

#!/bin/bash
for file in
if [-f \$fi
#print out
echo "File
#print a nu
awk '/^tecm
else
#print erro
echo "\$file
fi
done
#terminate
exit 0

Let us now employ the two special patterns:

BEGIN and

END in the

Awk command

in the script above as

We shall alter the script:

```
awk '/^tecm
```

To:

```
awk ' BEGIN
/^tecmint.c
END { prin
' $file
```

After making the changes to the **Awk** command, the complete shell script now looks like this:

```
#!/bin/bash
for file in
if [ -f $fi
#print out
echo "File
#print the
awk ' BEGIN
/^tecmint.c
END { prin
' $file
else
#print erro
echo "$file
fi
```

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Awk BEGIN and END

Patterns

When we run

the script

above, it will

first of all print

the location of

the file

domains.txt,

then the Awk

command

script is

executed,

where the

BEGIN special

pattern helps

us print out

the message

The number of times te

before any

input lines are

read from the

file.

Then our

pattern,

against every input line and the action, { counter+=1 ; } is executed for each input line, which counts the number of times tecmint.com appears in the file. Finally, the **END** pattern will print the total the number of times the domain tecmint.com appears in the file. \$./script.

To conclude.

String Appears

we walked

through more

Awk features

exploring on

the concepts

of special

pattern:

BEGIN and

END

As I pointed

out before,

these Awk

features will

help us build

more complex

text filtering

operations,

there is more

to cover under

Awk features

and in part 10,

we shall

approach the

idea of Awk

built-in

variables, so

stay

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. Aaron Kili

Computer Science student at Makerere University. Am a Linux enthusiast and a big fan of FOSS. I have used Linux for one year and six months now. I love to share ideas and knowledge around me and in other places around the world. Your name

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