

AWK

Alfred V.Aho

Brian W.Kernighan

Peter J.Weinberger

2019 4 4

— (C Pascal)
 awk C
 — — awk (
 awk (awk



awk ?? awk awk
 ?? awk
 awk
 ?? — awk
 ??
 ?? awk
 ?? “ awk
 awk ?? Unix
 ?? awk
 ?? awk ??
 ?? ??



awk. awk
 2 awk — awk
 3
 — awk

AWK

1977 Unix awk awk 1985
 — ?? awk

awk Unix System V Release 3.1 AT&T Unix System Toolchest 1-201-522-6900, AT&T Unix Europe (44-1-567-7711); AT&T Unix Pacific (81-3-431-3670).
 awk Unix Unix Unix . MS-DOS Addison-Wesley.
 Awk awk



Jon Bentley, awk Doug McIlroy, Susan Aho, Jaap Akkerhuis, Lorinda Cherry, Chris Fraser, Eric Grosse, Riccardo Gusella, Bob Herbst, Mark Kernighan, John Linderman, Bob Martin, Howard Moscovitz, Gerard Schmitt, Don Swartwout, Howard Trickey, Peter van Eijk, Chris Van Wyk, and Mihalis Yannakakis,



1

Awk awk ?? awk awk

1.1

awk , (

(awk

awk awk - (*pattern-action statement*) ((*field*))

2

awk Unix

Shell

AWK

awk awk -

patternaction

patternaction

(*match*) , “

(

3

- 3 0, 1

-

(

(

AWK

awk

program input files

program.

(

program

program (Unix control-d). Unix

4

awk

awk

() shell

(

optional list of files

awk

ÄÄ

awk

“Syntax error”

0 awk

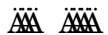
1.2 ÄÄÄÄ

5

awk awk awk awk

(, , .

ÄÄÄÄ



1.2



6

??



, *



(



,

7

?

1.3 ?

??
?

format value₁ value₂ value_n
format , value value₁ value₂ value

, , , , (

8

.

, , 6

??



awk Unix

awk

9

1.4

awk



\$5.00, 5:



\$50



(regular expressions)

10

??



, , , AND, OR, NOT.

4, 20

4, 20;



(*data validation*), awk

5

Ä

1.5 ÄAWK Ä

, awk

Ä

15

12

15 1.

awk 0, .

,

0, 0 awk



13



(concatenation).

awk . (



awk ,

14




,

1,

1.6 

C (Action)



\$6.00 0



$value = amount(1 + rate)^{years}.$

() (*comment*), awk
\$1000 6% 12%

ÄÄ

16

1.7 ÄÄ

awk , ,

awk

1.8 ÄÄ

awk - - awk
awk awk

1.9 ⚠

19

20

Awk

21

awk
awk -
patternaction
patternaction

awk “ “ ??

awk



awk . ((1984 () .

22



—

()

--

1.10

23

statements

statements

statements

statements

expressionstatements

expressionstatementsexpression

regular expressionstatements

statementsregular expression

compound patternstatements

compound patternstatements

pattern₁pattern₂statements

pattern₁pattern₂statements^a

^a*pattern₁ pattern₂ —*

awk ,

(

()), (??

24