**Practical No- 5**

**AWK Editor**

**A)Create a file empdata, which contains the following fields:-**

**Fieldname Datatype Value**

**1.** Employee name character

2. Employee code numeric starts with letter ‘E’

**3.** Department code character MKT, HRD, PUR

**4.** Grade character A-C

**5.** Designation character manager, director, gm, executive

**6.** Years of experience numeric

**7.** Date of birth dd-mm-yy

**8.** Region character Pune, Mumbai etc…

**9.** Basic pay numeric

**Insert at least five records in above file; character fields in each record may not be same in the same**

**case. ‘~’ is used as a field separator. Give commands for the following:-**

Jai~E1~MKT~A~manager~6~01-01-75~Pune~16000

Raj~E2~HRD~B~director~5~01-01-75~Mumbai~15000

Kamal~E3~PUR~C~gm~2~02-03-86~Pune~9000

Anna~E4~MKT~D~manager~9~14-05-75~Mumbai~25000

Ram~E5~HRD~A~executive~7~23-10-80~Mumbai~30000

**1. Display all employees who are manager in office.**

**Code:** [tybscit@localhost Desktop]$ awk '/manager/' empdata

**Output:**

Jai~E1~MKT~A~manager~6~01-01-75~Pune~16000

Anna~E4~MKT~D~manager~9~14-05-75~Mumbai~25000

**2. List the details of an employee “Jai” in Mumbai office.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '$1=="Raj" && $8=="Mumbai"'

empdata

**Output:** Raj~E2~HRD~B~director~5~01-01-75~Mumbai~15000

**3. Display all employees who are not in the department MKT. display the output sorted on department code.**

**Code & Output:**

[tybscit@localhost Desktop]$ awk -F "~" '$3!="MKT"’ empdata|sort -t "~" -k3

**4. Display all employees whose years of experience are more than 5.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '$6>"5"' empdata

**Output:**

Jai~E1~MKT~A~manager~6~01-01-75~Pune~16000

Anna~E4~MKT~D~manager~9~14-05-75~Mumbai~25000

**5. List only employee name, department code and basic pay of employees who are executive.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '$5=="executive" {print

$1,$3,$9}' empdata

**Output:** Ram HRD 30000

**6. Display all employees having grade ‘A’.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '$4=="A" {print $1}' empdata

**Output:** Jai

Ram

**7. Count total number of employees whose department code is HRD.**

**Code:**

[tybscit@localhost Desktop]$ awk -F "~" '$3=="HRD"

> {cnt=cnt+1}

> end{

> print "total number of employees whose department code is 'HRD' is

\n",cnt}' empdata

**Output:**

Raj~E2~HRD~B~director~5~01-01-75~Mumbai~15000

Ram~E5~HRD~A~executive~7~23-10-80~Mumbai~30000

**8. Display employee’s names with salary above 10,000.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '$9 > 10000{print $1}' empdata

**Output:**

Jai

Raj

Anna

Ram

**9. Display only designation and basic pay of employees having number of experience between three and 5.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '"$6>3 && $6<5"{print $5,$9}'empdata

**Output:** gm 9000

**10. Find the number of employees in Pune office.**

**Code:**

[tybscit@localhost Desktop]$ awk -F "~" '$8=="Pune"

> {cnt=cnt+1}

> end{

> printf "Number of employees in Pune office is %d/n",cnt}' empdata

**Output:**

Jai~E1~MKT~A~manager~6~01-01-75~Pune~16000

Kamal~E3~PUR~C~gm~2~02-03-86~Pune~9000

**11. Display employees who get basic pay less than 15000, also calculate and display average basic**

**pay.**

**Code:**

[tybscit@localhost Desktop]$ awk 'BEGIN {FS="~"

> OFS=":"

> printf "\nDetails\n"

> } $9<15000{

> cnt=cnt+1; add=add+$9

> print NR,NF,$0

> }END{

> avg=add/cnt

> printf "The average salary of employees is %d\n",avg}' empdata

**Output:**

Details

3:9:Kamal~E3~PUR~C~gm~2~02-03-86~Pune~9000

The average salary of employees is 9000

**12. Locate the employees with same date of birth**

**in Pune office.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '$8=="Pune" && $7=="01-01-

75"{print NR, $1}' empdata

**Output:** 1 Jai

**13. Locate all for Raj, Jai and Kamal as employee name.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~"

'$1=="Raj"||$1=="Jai"||$1=="Kamal"' empdata

**Output:**

Jai~E1~MKT~A~manager~6~01-01-75~Pune~16000

Raj~E2~HRD~B~director~5~01-01-75~Mumbai~15000

Kamal~E3~PUR~C~gm~2~02-03-86~Pune~9000

**14. Locate all except for Raj, Jai and Kamal as employee name.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '$1!~/Raj|Jai|Kamal/' empdata

**Output:**

Anna~E4~MKT~D~manager~9~14-05-75~Mumbai~25000

Ram~E5~HRD~A~executive~7~23-10-80~Mumbai~30000

**15. Find the employees who have designation as director and find the 40% of basic pay as da and**

**15% of basic pay as hra.**

**Code:**

[tybscit@localhost Desktop]$ awk -F "~" '$5=="director"{

>da=$9\*0.04;hra=$9\*0.15

> print nr,nf,$1,$9,da,hra}' empdata

**Output:** Raj 15000 600 2250

**16. Store employee name and date of birth in a file’ nbdata’.**

**Code:** [tybscit@localhost Desktop]$ awk -F "~" '{print $1,$7}'empdata|tee nbdata

**Output:**

Jai 01-01-75

Raj 01-01-75

Kamal 02-03-86

Anna 14-05-75

Ram 23-10-80

**B) Create a file student with following fields:-**

**Fieldname Datatype Value**

Student code numeric

Student name character

Batch code character B11-B15

No. of modules numeric 1-5

Average marks numeric

**Insert at least five records in above file; ‘:’ is used as a field separator. Give commands for the**

**following:-**

[tybscit@localhost Desktop]$ cat>stud

1:Anna:B11:5:90

2:Ram:B12:7:88

3:Hugh:B13:4:70

4:Tom:B14:1:55

5:Leo:B15:4:65

**1. Display the details of student in order of their names ignoring case.**

**Code:** [tybscit@localhost Desktop]$ awk '{print}' stud|sort -t ":" -k 2 -f

**Output:**

1:Anna:B11:5:90

3:Hugh:B13:4:70

5:Leo:B15:4:65

2:Ram:B12:7:88

4:Tom:B14:1:55

**2. Display the details of students whose number of modules is greater than 3.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '$4>3{print "%s\n",$0}' stud

**Output:**

%s

1:Anna:B11:5:90

%s

2:Ram:B12:7:88

%s

3:Hugh:B13:4:70

%s

5:Leo:B15:4:65

**3. Store the list of rank holders in file ‘merit’ along with student code and student name, and marks**

**& display its contents.**

**Code:** [tybscit@localhost Desktop]$ sort -t ":" -k5 -r -n stud|head -3|awk -F

":" '{print $1,$2,$5}'>merit

**Output:**

[tybscit@localhost Desktop]$ cat merit

1 Anna 90

2 Ram 88

3 Hugh 70

**4. Count the number of students in batch B13.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '$3=="B13"{

**Output:**

>cnt=cnt+1

> print NR,NF,$2

> }END{

>printf "Number of students in B13 is %d\n",cnt}' stud

3 5 Hugh

Number of students in B13 is 1

**5. Display the names of students with same names.**

**Code & Output:** [tybscit@localhost Desktop]$ awk -F ":" '$2~/[aA][bB][cC]/' stud

**6. Display the students belonging to batch codes B12 or B15.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '$3=="B12" || $3=="B15"{print

$1}' stud

**Output:** 2

5

**7. Display all the names not starting with ‘a’ or ‘A’.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '$2~/^[^aA]/' stud

**Output:**

2:Ram:B12:7:88

3:Hugh:B13:4:70

4:Tom:B14:1:55

5:Leo:B15:4:65

**8. Display all the names starting with ‘a’ or ‘A’.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '$2~/^[aA]/' stud

**Output:** 1:Anna:B11:5:90

**9. Display and count the number of students having marks in the range 40 to 60. Also display the**

**total and average marks.**

**Code:**

[tybscit@localhost Desktop]$ awk 'BEGIN{FS=":"

> OFS=":"

>printf "Details\n"

> }$5>=40 && $5<=60{

>cnt=cnt+1

>tot=tot+$5

> print NR,$2

> }END{

>avg=tot/cnt

>printf "Total marks:%d\n",tot

>printf "Average marks :%d\n",avg

>printf "Total students :%d\n",cnt}' stud

**Output:**

Details

4:Tom

Total marks:55

Average marks :55

Total students :1

**10. Display the student’s records from line number 2 to 4.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" 'NR==2,NR==4{printf "%d%s\n",NR,$0}' stud

**Output:**

2 2:Ram:B12:7:88

3 3:Hugh:B13:4:70

4 4:Tom:B14:1:55

**11. Display the student’s records that are having number of fields 5.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" 'NF==5{print $0}' stud

**Output:**

1:Anna:B11:5:90

2:Ram:B12:7:88

3:Hugh:B13:4:70

4:Tom:B14:1:55

5:Leo:B15:4:65

**12. Display the student’s records that are having number of fields less than or equal to 4.**

**Code & Output:** [tybscit@localhost Desktop]$ awk -F ":" 'NF<=4{printf $0}' stud

**13. Display the student code, student name and marks that are having number of fields greater than 5.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" 'NF<=5{print $1,$2,$5}' stud

**Output:**

1 Anna 90

2 Ram 88

3 Hugh 70

4 Tom 55

5 Leo 65

**14. Display the student’s name having the length greater than 3.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" 'length($2)>3{print $1,$2,$5}'

stud

**Output:**

1 Anna 90

2 Ram 88

3 Hugh 70

**15. Display the student’s records having the length of student name less than or equal to 3.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" 'length($2)<=3{print $1,$2,$5}'

stud

**Output:**

4 Tom 55

5 Leo 65

**16. Display the student’s records having the length less than or equal to 15.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" 'length($2)<=15{print $1,$2,$5}'

stud

**Output:**

1 Anna 90

2 Ram 88

3 Hugh 70

4 Tom 55

5 Leo 65

**17. Display the student’s records having the length greater than or equal to 15.**

**Code & Output:**

[tybscit@localhost Desktop]$ awk -F ":" 'length($2)>=15{print $1,$2,$5}' stud

**18. Display the student’s records having the length is in the range 5 to 15.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" 'length >=5 && length<=15{print

$0}' stud

**Output:**

1:Anna:B11:5:90

3:Hugh:B13:4:70

4:Tom:B14:1:55

5:Leo:B15:4:65

**19. Display the line number and index having character ‘b’ in student name.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '{print NR,index($2,"b")}' stud

**Output:**

1 0

2 0

3 0

4 0

5 0

**20. Display the line number, student name and index having character ‘b’ in student name.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '{print NR,index($2,"b"),$2}'

stud

**Output:**

1 0 Anna

2 0 Ram

3 0 Hugh

4 0 Tom

5 0 Leo

**21. Display the index, student name and marks having character ‘b’ in student name.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '{print index($2,"b"),$2,$5}'

stud

**Output:**

0 Anna 90

0 Ram 88

0 Hugh 70

0 Tom 55

0 Leo 65

**22. Display the line number, index, student name and marks having character ‘b’ in student name.**

**Code:** [tybscit@localhost Desktop]$ awk -F ":" '{print NR,index($2,"b"),$2,$5}'

stud

**Output:** 1 0 Anna 90

2 0 Ram 88

3 0 Hugh 70

4 0 Tom 55

5 0 Leo 65