UNIX ASSIGNMENT 2

Name: Veeraja V

Roll: 422180 Sec: A

Awk Command: Shell Script

top@LenovoYoga7i: /mnt/c/U

```
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ cat awk_command.sh
#!/bin/bash

echo -e "Contents of file1.txt\n"
cat file1.txt
echo ""

#emulate cat command in awk
echo -e "Emulate cat command using awk\n"
awk "{ print }" file1.txt
echo ""

#printing only first 2 columns
echo -e "printing only first two columns using awk\n"
awk '{ print $1 " " $2 }' file1.txt
echo ""

#printing records starting with s and ending with 25
echo -e "printing records starting with s and ending with 25\n"
awk '/^s.*25$/{print}' file1.txt
echo ""

#printing sum of values and average in field 3
echo -e "printing sum of values in field 3\n"
awk '{ sum += $3 } END {printf "Sum= %d \nAverage= %.2f \n", sum, sum/NR}' file1.txt
echo ""

#print substring containing last 2 letters of field 1, field2 and first tow digits of field 3
echo -e "print substring containing last 2 letters of field 1, field2 and first two digits of field 3\n"
awk '{ print substr($1, 2, 3) "    " $2 "    " substr($3, 1, 2) }' file1.txt
echo ""

#print junior if 3rd column less than equal to 15000
echo -e "print junior if 3rd column less than equal to 15000"
awk '{ if ($3 > 15000) { print $1 " senior" } else { print $1 " junior" } }' file1.txt
echo ""

#print squares of the numbers in field 4
echo -e "print squares of the numbers in field 4"
awk 'function square(x) { return x*x } { print $4 " squared = " square($4) }' file1.txt
echo ""

#print the count of words in the file
echo -e "Count the number of words in the file\n"
awk '{ chars += length($0) + 1; words += NF} END { printf "No of records= %d \nNo of words= %d \nNo of characters= %d\n",NR, words, chars }' file1.txt
echo ""

#Print sum of first n numbers using recursion
echo -e "Enter a number to calculate sum of first n numbers\n"
awk 'function sumFirstN(n)
{
        if (n==0) return 0
        return n+sumFirstN(n-1)
} {print $4 " = " sumFirstN($4)}' file1.txt
echo ""


top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$
```

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OUTPUT:

```
top@LenovoYoga7i: /mnt/c/U
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ chmod +x awk_command.sh
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ ./awk_command.sh
Contents of file1.txt

s01 em1 10000 25
s02 em2 12000 24
s03 em3 11020 22
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27
s08 em8 32000 28

Emulate cat command using awk

s01 em1 10000 25
s02 em2 12000 24
s03 em3 11020 22
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27
s08 em8 32000 28

printing only first two columns using awk

s01 em1
s02 em2
s03 em3
s04 em4
s05 em5
s06 em6
s07 em7
s08 em8

printing records starting with s and ending with 25

s01 em1 10000 25
s06 em6 20000 25

printing sum of values in field 3

Sum= 142020
Average= 17752.50

print substring containing last 2 letters of field 1, field2 and first two digits of field 3

01   em1    10
02   em2    12
03   em3    11
04   em4    13
05   em5    19
06   em6    20
```

```
top@LenovoYoga7i: /mnt/c/U
08   em8    32

print junior if 3rd column less than equal to 15000
s01 junior
s02 junior
s03 junior
s04 junior
s05 senior
s06 senior
s07 senior
s08 senior

print squares of the numbers in field 4
25 squared = 625
24 squared = 576
22 squared = 484
23 squared = 529
26 squared = 676
25 squared = 625
27 squared = 729
28 squared = 784

Count the number of words in the file

No of records= 8
No of words= 32
No of characters= 136

Enter a number to calculate sum of first n numbers

25 = 325
24 = 300
22 = 253
23 = 276
26 = 351
25 = 325
27 = 378
28 = 406

top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$
```

Sed command: Shell Script

```
top@LenovoYoga7i: /mnt/c/U
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ cat sed_command.sh
#!/bin/bash

sed 's/s01/51/' file1.txt
echo ""
sed 's/25/21/' file1.txt
echo ""
sed '2d' file1.txt
echo ""
sed '$d' file1.txt
echo ""
sed '2,4d' file1.txt
echo ""
sed '5,$d' file1.txt
echo ""
sed '/22/d' file1.txt

top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ cat file1.txt
s01 em1 10000 25
s02 em2 12000 24
s03 em3 11020 22
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27
s08 em8 32000 28
```

OUTPUTS:

```
top@LenovoYoga7i: /mnt/c/U
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ ./sed_command.sh
51 em1 10000 25
s02 em2 12000 24
s03 em3 11020 22
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27
s08 em8 32000 28

s01 em1 10000 21
s02 em2 12000 24
s03 em3 11020 22
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 21
s07 em7 21000 27
s08 em8 32000 28

s01 em1 10000 25
s03 em3 11020 22
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27
s08 em8 32000 28

s01 em1 10000 25
s02 em2 12000 24
s03 em3 11020 22
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27

s01 em1 10000 25
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27
s08 em8 32000 28

s01 em1 10000 25
s02 em2 12000 24
s03 em3 11020 22
s04 em4 13000 23

s01 em1 10000 25
s02 em2 12000 24
s04 em4 13000 23
s05 em5 19000 26
s06 em6 20000 25
s07 em7 25000 27
s08 em8 32000 28
```

Tar Command: Shell Script

```
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ mkdir tar_test
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ cd tar_test/
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2/tar_test$ touch file1.txt && cat > file1.txt
Hello
Hello
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2/tar_test$ touch file2.txt && cat > file2.txt
Hi World
Hi World
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2/tar_test$ touch file3.txt && cat > file3.txt
QWERTY
qwerty
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2/tar_test$ cd ..
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ touch tar_command.sh && vim tar_command.sh
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ cat tar_command.sh
#!/bin/bash

echo "** Creating a compressed archive:**"
tar -czvf tar_test.tar.gz tar_test

echo "\n** Listing the contents of an archive:**"
tar -tvf tar_test.tar.gz

echo "\n** Extracting an archive:**"
tar -xvf tar_test.tar.gz -C tar_test_extracted


top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ chmod +x tar_command.sh
```

OUTPUTS:

```
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$ ./tar_command.sh
** Creating a compressed archive:**
tar_test/
tar_test/file1.txt
tar_test/file2.txt
tar_test/file3.txt
\n** Listing the contents of an archive:**
drwxrwxrwx top/top           0 2024-04-19 22:05 tar_test/
-rwxrwxrwx top/top          12 2024-04-19 22:05 tar_test/file1.txt
-rwxrwxrwx top/top          18 2024-04-19 22:05 tar_test/file2.txt
-rwxrwxrwx top/top          14 2024-04-19 22:05 tar_test/file3.txt
\n Creating new directory
\n** Extracting an archive:**
tar_test/
tar_test/file1.txt
tar_test/file2.txt
tar_test/file3.txt
top@LenovoYoga7i:/mnt/c/Users/veeru/Downloads/UNIX_LAB-branch_2/UNIX_LAB-branch_2/422180_Lab/assignment2$
```

Cpio command: Shell Script & Output