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Subject: Report About Output of Project

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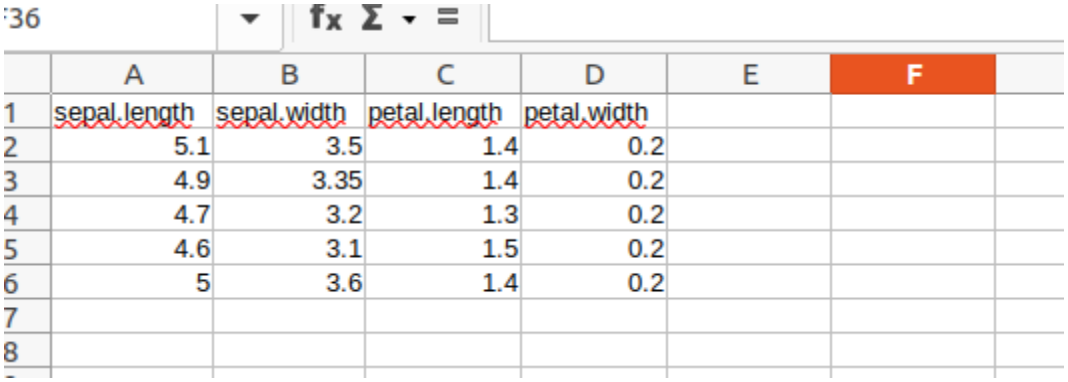
Example (1): Like Sample in PROJECT pdf

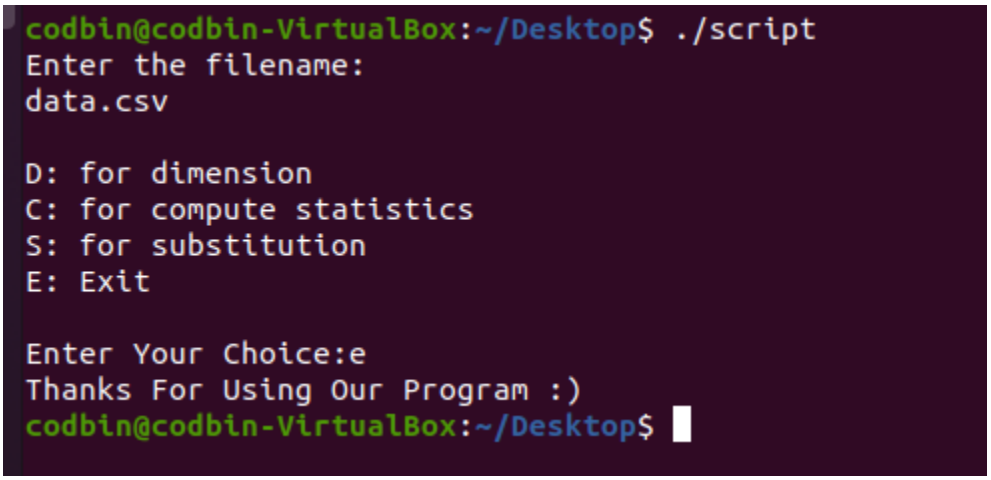
	A	B	C	D
1	sepal.length	sepal.width	petal.length	petal.width
2	5.1	3.5	1.4	0.2
3	4.9	3	1.4	0.2
4	4.7	3.2	1.3	0.2
5	4.6	3.1	1.5	0.2
6	5	3.6	1.4	0.2
7				
8				
9				

```
codbin@codbin-VirtualBox:~/Desktop$ ./script
Enter the filename:
data.csv

D: for dimension
C: for compute statistics
S: for substitution
E: Exit

Enter Your Choice:d
rows X columns = 5 X 4

D: for dimension
C: for compute statistics
S: for substitution
E: Exit

Enter Your Choice:c
Min          4.6          3        1.3        0.2
Max          5.1        3.6        1.5        0.2
Mean        4.86       3.28        1.4        0.2
STDEV    0.20736    0.25884    0.07071          0

D: for dimension
C: for compute statistics
S: for substitution
E: Exit

Enter Your Choice:
```



	A	B	C	D	E	F
1	sepal.length	sepal.width	petal.length	petal.width		
2	5.1	3.5	1.4	0.2		
3	4.9	3.35	1.4	0.2		
4	4.7	3.2	1.3	0.2		
5	4.6	3.1	1.5	0.2		
6	5	3.6	1.4	0.2		
7						
8						

```
codbin@codbin-VirtualBox:~/Desktop$ ./script
Enter the filename:
data.csv

D: for dimension
C: for compute statistics
S: for substitution
E: Exit

Enter Your Choice:s

Substituting
sepal.length,sepal.width,petal.length,petal.width
5.1,3.5,1.4,0.2
4.9,3.35,1.4,0.2
4.7,3.2,1.3,0.2
4.6,3.1,1.5,0.2
5,3.6,1.4,0.2

D: for dimension
C: for compute statistics
S: for substitution
E: Exit

Enter Your Choice:
```


codbin@codbin-VirtualBox:~/Desktop$ ./script
Enter the filename:
data.csv
D: for dimension
C: for compute statistics
S: for substitution
E: Exit
Enter Your Choice:e
Thanks For Using Our Program :)
codbin@codbin-VirtualBox:~/Desktop$

Substitute File:

To Check the File (gedit substitue):

```
indeces=$(grep -n "^$" $1 | cut -d':' -f1)
if [ $(grep -n "^$" $1 |wc -l | cut -d' ' -f1) -eq 0 ]
then
exit
fi
indeces=$(echo $indeces|tr ' ' ',' )
sed $(echo $indeces| sed 's/,/d;/g')'d' $1 > data.temp #deletes empty lines
n=$(wc -l data.temp|cut -d' ' -f1)
i=1

sum='0.0'
while [ $i -le $n ]
do
 sum=$(echo $sum'+'$(sed -n $i'p' data.temp) | bc)
 i=$(($i+1))
done
avg=$(echo "scale=2;"$sum"/"$n'.0' | bc)
cat $1>data.temp
rm $1
n=$(wc -l data.temp | cut -d' ' -f1)
i=1
```

```
iss=$indeces
while [ $i -le $n ]
do
 x=$(echo $iss | cut -d',' -f1 )
 if [ $x -eq $i ]
 then
  #statements
  echo $avg>>$1
  iss=$(echo $iss | cut -d',' -f2- )
 else
  echo $(sed -n $i'p' data.temp)>>$1
 fi
 i=$(($i+1))
done
```

Script File:

```
#!/bin/bash
echo "Enter the filename: "
read filename

if [ ! -f "$filename" ]
then
echo "Wrong File Name"
 exit 2
```

```
fi

if [ ! "${filename: -4}" == ".csv" ]
 then
  echo "File format error"
  exit 2
fi

cols=$(head -n1 $filename |sed "s/\"[^\"]*\,[^\"]*\"/txt/g" |tr ',' '\12' | wc -l)
for i in $(seq 1 $cols);
do
checker1=$(cat $filename | sed '1d' | sed -n $i'p' | tr ',' ' ' |grep '.*[A-Za-z].*' | wc -l)
if [ $checker1 -gt 0 ]
then
echo "the data format is wrong"
exit 2
fi
done
while true
do
  printf "\nD: for dimension
C: for compute statistics
```

```
S: for substitution
E: Exit\n"
printf "\nEnter Your Choice:"
 read choice
choice=$(echo $choice|tr '[a-z]' '[A-Z]')
if [ $choice = "D" ]
then
sed -i '/^$/d' $filename
cols=$(head -1 $filename |sed "s/\"[^\"]*\,[^\"]*\"/txt/g"|tr ',' '\12' | wc -l)
rows=$(cat $filename | wc -l)
echo "rows X columns = $((rows - 1)) X $cols"
fi

if [ $choice = "C" ]
then
rm statistics.csv
cols=$(head -n1 $filename |sed "s/\"[^\"]*\,[^\"]*\"/txt/g" |tr ',' '\12' | wc -
l)
rows=$(expr $(cat $filename | wc -l) - 1)
printf "Min  "
printf "Min" >> statistics.csv
 for i in $(seq 1 $cols);
do
```

```
min=$(sed '1d' $filename | cut -d',' -f$i | sort -n | head -1)
printf "%10.7g" $min
printf ",%10.7g" $min >> statistics.csv
done
 printf "\nMax  "
 printf "\nMax" >> statistics.csv
for i in $(seq 1 $cols);
do
max=$(sed '1d' $filename | cut -d',' -f$i | sort -nr | head -1)
printf "%10.7g" $max
printf ",%10.7g" $max >> statistics.csv
done

 printf "\nMean "
 printf "\nMean" >> statistics.csv
 for i in $(seq 1 $cols);
 do
            total=$(cat $filename | sed '1d' | cut -d',' -f$i | paste -s -d'+'| bc )


mean=$(echo "scale=5; $total / $rows" | bc)
```

```
  printf "%10.7g" $mean
  printf ",%10.7g" $mean >> statistics.csv
 done

 printf "\nSTDEV"
 printf "\nSTDEV" >> statistics.csv
 for i in $(seq 1 $cols);
 do
  total=$(cat $filename | sed '1d' | cut -d',' -f$i | paste -s -d'+'| bc )
mean=$(echo "scale=5; $total / $rows" | bc)
stdsum=$(cat $filename | sed '1d' | cut -d',' -f$i | tr -d ' '| tr '\12' ' ' | sed
"s/\([^ ]*\) /\(\1 - $mean \)^2 +/g" )
  stdsum=$(echo $stdsum' 0' | bc )
  stdev=$(echo "scale=5;sqrt("$stdsum'/('$rows'-1))' | bc)
  printf "%10.7g" $stdev
  printf ",%10.7g" $stdev >> statistics.csv
 done
 printf "\n"
 printf "\n" >> statistics.csv
fi
if [ $choice = "S" ]
then
printf "\nSubstituting\n"
```

```
filename='data.csv'
sed '1d' $filename >dd.temp
filesname=""
for i in $(seq 1 $cols);
  do
cat dd.temp| cut -d',' -f"$i" > l"$i".temp
./substitue l"$i".temp
filesname=$filesname" l"$i".temp"
done
sed -n '1p' $filename > ans.csv
paste -d',' $filesname >> ans.csv
cat ans.csv > data.csv
rm ans.csv
cat data.csv
fi
if [ $choice = "E" ]
then
echo "Thanks For Using Our Program  ☺ "
exit 0
fi
done
```

Example (2) : Add New Columns And Rows And Substituting

	A	B	C	D	E	F	G
1	sepal.length	sepal.width	petal.length	petal.width	ayham.length	deek.width	
2	5.1	3.5	1.4	0.2	1	6	
3	4.9	3	1.4	0.2	2	7	
4	4.7	3.2	1.3	0.2	3	8	
5	4.6	3.1	1.5	0.2	4	9	
6	5	3.6	1.4	0.2	5	9.5	
7	7	5	1	6	9	4	
8							
9							
10							

```
codbin@codbin-VirtualBox:~/Desktop$ ./script
Enter the filename:
data.csv

D: for dimension
C: for compute statistics
S: for substitution
E: Exit

Enter Your Choice:s

Substituting
sepal.length,sepal.width,petal.length,petal.width,ayham.length,deek.width
5.24,3.5,1.4,0.2,1,6
4.9,3.68,1.4,0.2,2,7
4.7,3.2,1.34,0.2,3,8
4.6,3.1,1.5,1.36,4.00,6.90
5,3.6,1.4,0.2,5,9.5
7,5,1,6,9,4

D: for dimension
C: for compute statistics
S: for substitution
E: Exit
```

```
Enter Your Choice:d
rows X columns = 6 X 6

D: for dimension
C: for compute statistics
S: for substitution
E: Exit
```

```
Enter Your Choice:c
Min          4.6       3.1         1       0.2         1         4
Max            7         5       1.5         6         9       9.5
Mean        5.24      3.68      1.34      1.36         4       6.9
STDEV    0.89129   0.68527   0.17435      2.32   2.82842   1.85472
```