

# Bash Scripting

## Assignment-2

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A Course Homework Assignment



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## 1 Problem 1

The problem involves a text file which can be read piece by piece using the **awk** command. The terms are added one by one cumulatively, to do this we maintain a variable called `sum`, and we print it after every successive row has been read.

```
1 awk 'BEGIN{sum=0} {sum = sum + $1} {print(sum)} END{ }' $dir > cumulative.txt
```

the final symbol is to redirect the output onto a file

## 2 Problem 2

We do the same thing, nearly, but we now need to take care of comments, to do this we will use the pattern matching capability of **awk**. The moment I see a `'#'` I will ignore the line and move on. The regex for a hashed line is simply `#.*`. I will maintain an **Awk array and Awk for loop** to store the values of the sum of each column

```
1 /#.* / { next }
2     {
3         for (i=1; i<NF; i++)
4         {
5             sum[i]=sum[i]+$i
6             printf "%d:",sum[i]
7         }
8         printf "\n"
9     }
```

The field separator would be a colon, I will then redirect output to a file

```
1 awk -F: -f awk_script.f $dir > cumulative_multicol.txt
```

## 3 Problem 3

We need to read the input file line by line, to do this we use the `while` construct and the `read` function. we then append according to what we see, on each even count we append the name and on each odd count we append the roll number along with the email, to do this we first convert to lower case by piping to the `tr` command

```
1 count=1
2 while read p; do
3     count=$((count+1))
4     #increment count by one since you have read the first line
5     if [ `expr $count % 2` == 0 ]; then
6         person_count=$((count/2))
7         echo -e -n "$person_count;" >> $dir_final
8         #p now contains the name of a person
9         echo -e -n "$p;" >> $dir_final
10        read p
```

```
11     #p now contains the roll number of a person
12     count=$((count+1))
13     echo -e -n "$p;" >> $dir_final
14     echo -e -n "$p@iith.ac.in\n" | tr '[:upper:]' '[:lower:]' >> $dir_final
15 fi
16 done <$dir
```

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