

Homework 4

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October 25, 2019

1 Homework - Session 9

1.1 Code from awk script

```
#!/usr/bin/gawk
BEGIN{
    #Setting the file separator as ,
    FS=",";
    avg1=0;
    avg2=0;
    avg3=0;
    avg4=0;
    count=0;
}
{
    x = $1+$2+$3;
    #printing the value of the sum just after the input data with a comma
    print($0,",",x);
    #currently, just finding the summation of each line, average will be
    #taken later
    avg1=avg1+$1;
    avg2=avg2+$2;
    avg3=avg3+$3;
    avg4=avg4+x;
    count++;
}
END{
    #taking the averages
    avg1/=count;
    avg2/=count;
    avg3/=count;
    avg4/=count;
    print("Averages:");
    print(avg1,",", avg2,",", avg3,",", avg4);
    print("Lines parsed = ", count);
}
```

```
abhigyan@abhigyan-samsung: ~/Code/Bash-Scripts
File Edit View Search Terminal Help
abhigyan@abhigyan-samsung:~/Code/Bash-Scripts$ cat squares.csv
1 , 1 , 1
2 , 4 , 8
3 , 9 , 27
4 , 16 , 64
5 , 25 , 125
6 , 36 , 216
7 , 49 , 343
8 , 64 , 512
9 , 81 , 729
10 , 100 , 1000
11 , 121 , 1331
12 , 144 , 1728
13 , 169 , 2197
14 , 196 , 2744
15 , 225 , 3375
16 , 256 , 4096
17 , 289 , 4913
18 , 324 , 5832
19 , 361 , 6859
20 , 400 , 8000
21 , 441 , 9261
22 , 484 , 10648
23 , 529 , 12167
```

Figure 1: The starting few lines of the contents of the csv file that contains the comma-separated values of 1500 numbers, their squares, and their cubes

```
abhigyan@abhigyan-samsung: ~/Code/Bash-Scripts
File Edit View Search Terminal Help
abhigyan@abhigyan-samsung:~/Code/Bash-Scripts$ awk -f adder.awk squares.csv
1 , 1 , 1 , 3
2 , 4 , 8 , 14
3 , 9 , 27 , 39
4 , 16 , 64 , 84
5 , 25 , 125 , 155
6 , 36 , 216 , 258
7 , 49 , 343 , 399
8 , 64 , 512 , 584
9 , 81 , 729 , 819
10 , 100 , 1000 , 1110
11 , 121 , 1331 , 1463
12 , 144 , 1728 , 1884
13 , 169 , 2197 , 2379
14 , 196 , 2744 , 2954
15 , 225 , 3375 , 3615
16 , 256 , 4096 , 4368
17 , 289 , 4913 , 5219
18 , 324 , 5832 , 6174
19 , 361 , 6859 , 7239
20 , 400 , 8000 , 8420
21 , 441 , 9261 , 9723
22 , 484 , 10648 , 11154
23 , 529 , 12167 , 12719
```

Figure 2: The starting few lines of the output of the awk script when run on the csv file

```
abhigyan@abhigyan-samsung: ~/Code/Bash-Scripts
File Edit View Search Terminal Help
1481 , 2193361 , 3248367641 , 3250562483
1482 , 2196324 , 3254952168 , 3257149974
1483 , 2199289 , 3261545587 , 3263746359
1484 , 2202256 , 3268147904 , 3270351644
1485 , 2205225 , 3274759125 , 3276965835
1486 , 2208196 , 3281379256 , 3283588938
1487 , 2211169 , 3288008303 , 3290220959
1488 , 2214144 , 3294646272 , 3296861904
1489 , 2217121 , 3301293169 , 3303511779
1490 , 2220100 , 3307949000 , 3310170590
1491 , 2223081 , 3314613771 , 3316838343
1492 , 2226064 , 3321287488 , 3323515044
1493 , 2229049 , 3327970157 , 3330200699
1494 , 2232036 , 3334661784 , 3336895314
1495 , 2235025 , 3341362375 , 3343598895
1496 , 2238016 , 3348071936 , 3350311448
1497 , 2241009 , 3354790473 , 3357032979
1498 , 2244004 , 3361517992 , 3363763494
1499 , 2247001 , 3368254499 , 3370502999
1500 , 2250000 , 3375000000 , 3377251500
Averages:
750.5 , 750750 , 844875375 , 8.45627e+08
Lines parsed = 1500
abhigyan@abhigyan-samsung:~/Code/Bash-Scripts$
```

Figure 3: The ending few lines of the output of the awk script