Finding the best city in Australia! (Bash Shell Script)

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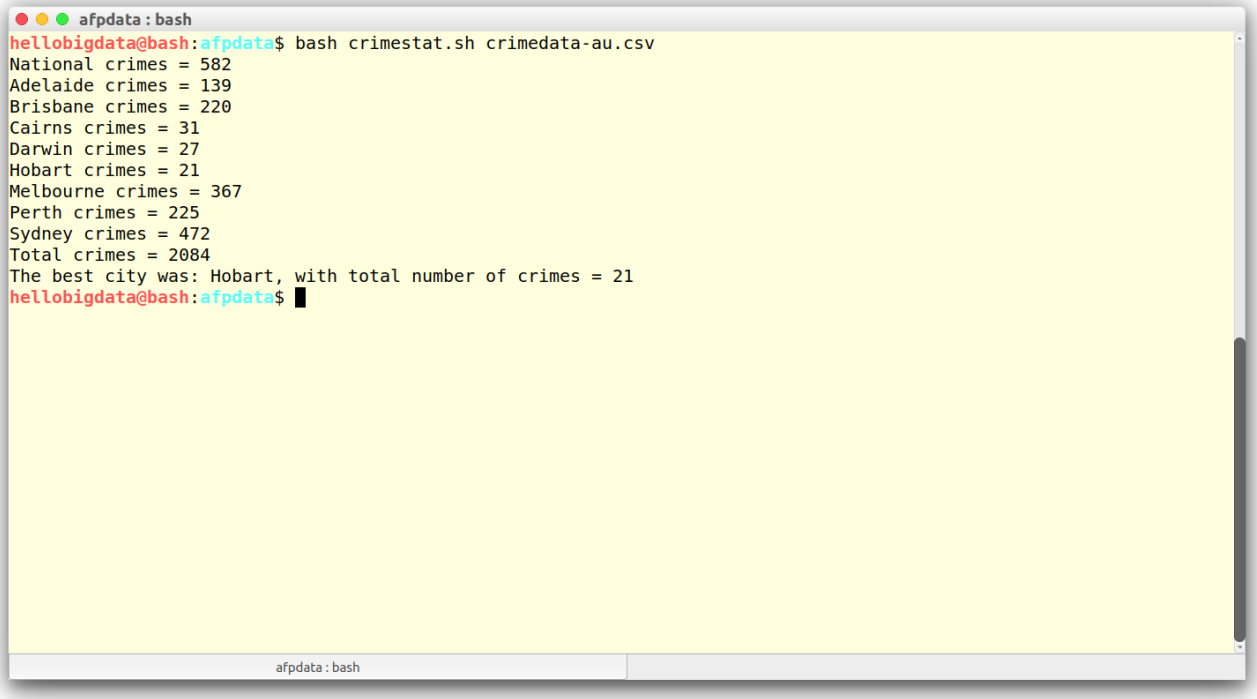
Our final quest in this project is to find the best city in Australia that had the least number of crimes over that pre-2013 unknown period. This is a complex example, let's first watch the following video lecture to understand it's goals first!

Video: Find the best Australian city (use Bash scripting)

Essentially, we would need to find summation of the city columns and then compare the sums to find the city with the lowest total sum. Our expected output is shown below:



Which one's the best city down under in terms of crime? Hobart.

To develop the code, we will reuse the average function (sum part) developed above and call it inside a loop. Some important points:

- The first line in the script (`crimestat.sh`) indicates the system (`bash`) which program to use to run the file. If you get something like `./crimestat.sh: Command not found`. Probably the first line `'#!/bin/bash'` is wrong, issue `whereis bash` to see how sould you write this line. Also, do not forget to issue `chmod +x crimestat.sh` to enable execution right on the script for you!
- The function `totalcimes()` is no different from the `avgcrimes()` explained above, just that in the `awk` part we do not divide `total` crimes by the number of rows.
- We read the first line of the input file (stored in the variable `$1`) as an array and store in the `fields` variable.
- In the `for-loop` part, we iterate over the field titles (`field`: city names), except the first first field, which is not a city!
- Inside the `for-loop`, we find the city that had the lowest number total crimes, comparing with the previously stored maximum number of crimes, using a simple logic of find the lowest number from a set of given numbers.

Now, see the full code below:

main.sh

crimestat.sh

```
bash crimestat.sh crimedata-au.csv | tail -n 1
```

Don't forget to check the 'crimestat.sh' code

Do you want to know more?

'crimestat.sh' bash script