

Week 3 Homework: A High Stakes Investigation

Saturday, March 27, 2021 3:42 PM

Step 1: Investigation Preparation

1. Begin by making a single directory titled Lucky_Duck_Investigations.
2. In this directory, create a directory for this specific investigation titled Roulette_Loss_Investigation.
3. In Roulette_Loss_Investigation, create the following directories:
 - o Player_Analysis to investigate the casino player.
 - o Dealer_Analysis to investigate the dealers.
 - o Player_Dealer_Correlation to summarize your findings of the collusion.

Using **mkdir** I created the required path described above.

```
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation$ mkdir Dealer_Analysis
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation$ ls -al
total 20
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:33 .
drwxr-xr-x 3 sysadmin sysadmin 4096 Mar 27 20:23 ..
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 20:33 Dealer_Analysis
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 20:29 Player_Analysis
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 20:24 Player_Dealer_Correlation
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation$
```

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4. Create empty files called Notes_<Directory Name> under each subdirectory to store investigation notes

```
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation$ touch Notes_Correlation
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation$ ls -al
total 8
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 20:36 .
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:33 ..
-rw-r--r-- 1 sysadmin sysadmin 0 Mar 27 20:36 Notes_Correlation
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation$
```

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The other directories also contain Notes files which I used **touch** to create.

Step 2: Gathering Evidence

1. Navigate to the directory where you created the Lucky_Duck_Investigations directory and run the following command to set up the evidence files:
 - `wget "https://tinyurl.com/3-HW-setup-evidence" && chmod +x ./3-HW-setup-evidence && ./3-HW-setup-evidence`

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations$ wget "https://tinyurl.com/3-HW-setup-evidence" && chmod +x ./3-HW-setup-evidence && ./3-HW-setup-evidence
--2021-03-27 20:42:28-- https://tinyurl.com/3-HW-setup-evidence
Resolving tinyurl.com (tinyurl.com)... 172.67.1.225, 104.20.138.65, 104.20.139.65, ...
Connecting to tinyurl.com (tinyurl.com)|172.67.1.225|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://gist.githubusercontent.com/eddimus/e57fcb9510dd18225142cb23f236da24/raw/39f7f71b22ae7997e92d82e57aedd02bbb6dd481/Setup_Evidence_Files.sh [following]
--2021-03-27 20:42:33-- https://gist.githubusercontent.com/eddimus/e57fcb9510dd18225142cb23f236da24/raw/39f7f71b22ae7997e92d82e57aedd02bbb6dd481/Setup_Evidence_Files.sh
Resolving gist.githubusercontent.com (gist.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to gist.githubusercontent.com (gist.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 32625 (32K) [text/plain]
Saving to: '3-HW-setup-evidence'

3-HW-setup-evidence 100%[=====>] 31.86K --.-KB/s in 0.07s

2021-03-27 20:42:35 (430 KB/s) - '3-HW-setup-evidence' saved [32625/32625]

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations$

```

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After running this command your current directory should have the following subdirectories:

- Dealer_Schedules_0310: Contains the dealer schedules.
- Lucky_Duck_Investigations: Contains the investigation directories and notes files you created.
- Roulette_Player_WinLoss_0310: Contains the data for player wins and losses

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations$ ls -al
total 52
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:42 .
drwxr-xr-x 8 sysadmin sysadmin 4096 Mar 27 20:22 ..
-rwxr-xr-x 1 sysadmin sysadmin 32625 Mar 27 20:42 3-HW-setup-evidence
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 20:42 Dealer_Schedules_0310
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:33 Roulette_Loss_Investigation
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 20:42 Roulette_Player_WinLoss_0310
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations$

```

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Confirmed - the directories are there. I checked with the `ls -al` command.

- The Dealer_Schedules_0310 and Roulette_Player_WinLoss_0310 directories contain the dealer schedules and win/loss player data from the roulette tables during the week of March 10.
 - Since the losses occurred on March 10, 12, and 15, move the schedules for those days into the directory Dealer_Analysis.

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Dealer_Schedules_0310$ ls -al
total 40
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 20:42 .
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 21:00 ..
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0310_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0311_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0312_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0313_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0314_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0315_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0316_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 20:42 0317_Dealer_schedule
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Dealer_Schedules_0310$ cp 0310_Dealer_schedule ../Roulette_Loss_Investigation/Dealer_Analysis/
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Dealer_Schedules_0310$ cp 0312_Dealer_schedule ../Roulette_Loss_Investigation/Dealer_Analysis/
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Dealer_Schedules_0310$ cp 0315_Dealer_schedule ../Roulette_Loss_Investigation/Dealer_Analysis/
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Dealer_Schedules_0310$ cd ..
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations$ cd Roulette_Loss_Investigation/Dealer_Analysis/
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ls -al

```

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations$ cd Roulette_Loss_Investigation/Dealer_Analysis/
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ls -al
total 20
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 21:04 .
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:33 ..
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:02 0310_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:04 0312_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:04 0315_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 0 Mar 27 20:35 Notes_Dealer_Analysis
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$

```

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Confirmed files were moved to the Dealer_Analysis folder using the **cp** command.

- Move the files for those days into the directory Player_Analysis.

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Player_WinLoss_0310$ cp 0310_win_loss_player_data 0312_win_loss_player_data 0315_win_loss_player_data ../Roulette_Loss_Investigation/Player_Analysis/
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Player_WinLoss_0310$

```

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Confirmed the files were moved to the Player_Analysis folder using the **cp** command with files listed in succession

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ ls -al
total 20
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 21:09 .
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:33 ..
-rw-r--r-- 1 sysadmin sysadmin 2319 Mar 27 21:09 0310_win_loss_player_data
-rw-r--r-- 1 sysadmin sysadmin 2379 Mar 27 21:09 0312_win_loss_player_data
-rw-r--r-- 1 sysadmin sysadmin 2310 Mar 27 21:09 0315_win_loss_player_data
-rw-r--r-- 1 sysadmin sysadmin 0 Mar 27 20:35 Notes_Player_Analysis
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$

```

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Step 3: Correlating the Evidence

1. Navigate to the Player_Analysis directory.
2. Use **grep** to isolate all of the losses that occurred on March 10, 12, and 15.
3. Place those results in a file called Roulette_Losses.
4. Preview the file Roulette_Losses and analyze the data.

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ grep - 0310_win_loss_player_data | cat > Roulette_Losses
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ grep - 0312_win_loss_player_data | cat >> Roulette_Losses
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ grep - 0315_win_loss_player_data | cat >> Roulette_Losses
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ more Roulette_Losses
05:00:00 AM -$82,348 Amirah Schneider,Nola Portillo, Mylie Schmidt,Suhayb Maguire,Millicent Be
tts,Avi Graves
08:00:00 AM -$97,383 Chanelle Tapia, Shelley Dodson , Valentino Smith, Mylie Schmidt
02:00:00 PM -$82,348 Jaden Clarkson, Kaidan Sheridan, Mylie Schmidt
08:00:00 PM -$65,348 Mylie Schmidt, Trixie Velasquez, Jerome Klein ,Rahma Buckley
11:00:00 PM -$88,383 Mcfadden Wasim, Norman Cooper, Mylie Schmidt
05:00:00 AM -$182,300 Montana Kirk, Alysia Goodman, Halima Little, Etienne Brady, Mylie Schmidt
08:00:00 AM -$97,383 Rimsha Gardiner,Fern Cleveland, Mylie Schmidt,Kobe Higgins
02:00:00 PM -$82,348 Mae Hail, Mylie Schmidt,Ayden Beil
08:00:00 PM -$65,792 Tallulah Rawlings,Josie Dawe, Mylie Schmidt,Hakim Stott, Esther Callaghan
, Ciaron Villanueva
11:00:00 PM -$88,229 Vlad Hatfield,Kerys Frazier,Mya Butler, Mylie Schmidt,Lex Oakley,Elin Wor
mald
05:00:00 AM -$82,844 Arjan Guzman,Sommer Mann, Mylie Schmidt
08:00:00 AM -$97,001 Lilianna Devlin,Brendan Lester, Mylie Schmidt,Blade Robertson,Derrick Sch
roeder
02:00:00 PM -$182,419 Mylie Schmidt, Corey Huffman
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$

```


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Using the command **grep** - command to find losses in each of the three files, I then output the results to the Roulette_Losses file using the **cat >>** command. The results are shown using the **more** command to display the content of the Roulette_Losses file.

Record in the Notes_Player_Analysis file:

- The times the losses occurred on each day.
- If there is a certain player that was playing during each of those times.
- The total count of times this player was playing.
 - **Hint:** Use the **wc** command to find this value.

```
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$  
awk '{print $1}' Roulette_Losses | wc -l  
13
```

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Notes included in my Notes_Player_Analysis file:

Using the **more** command to display the contents of the file

```
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$  
more Notes_Player_Analysis  
05:00:00 AM      -$82,348      Amirah Schneider,Nola Portillo, Mylie Schmidt,Suhayb Maguire,Millicent Bet  
ts,Avi Graves  
08:00:00 AM      -$97,383      Chanelle Tapia, Shelley Dodson , Valentino Smith, Mylie Schmidt  
02:00:00 PM      -$82,348      Jaden Clarkson, Kaidan Sheridan, Mylie Schmidt  
08:00:00 PM      -$65,348      Mylie Schmidt, Trixie Velasquez, Jerome Klein ,Rahma Buckley  
11:00:00 PM      -$88,383      Mcfadden Wasim, Norman Cooper, Mylie Schmidt  
05:00:00 AM      -$182,300     Montana Kirk, Alysia Goodman, Halima Little, Etienne Brady, Mylie Schmidt  
08:00:00 AM      -$97,383      Rimsha Gardiner,Fern Cleveland, Mylie Schmidt,Kobe Higgins  
02:00:00 PM      -$82,348      Mae Hail, Mylie Schmidt,Ayden Beil  
08:00:00 PM      -$65,792      Tallulah Rawlings,Josie Dawe, Mylie Schmidt,Hakim Stott, Esther Callaghan,  
Ciaran Villanueva  
11:00:00 PM      -$88,229      Vlad Hatfield,Kerys Frazier,Mya Butler, Mylie Schmidt,Lex Oakley,Elin Worm  
ald  
05:00:00 AM      -$82,844      Arjan Guzman,Sommer Mann, Mylie Schmidt  
08:00:00 AM      -$97,001      Lilianna Devlin,Brendan Lester, Mylie Schmidt,Blade Robertson,Derrick Schr  
oeder  
02:00:00 PM      -$182,419     Mylie Schmidt, Corey Huffman
```

```
Notes:  
There were losses 13 times over these three dates (count of lines in this file).  
There was a single name "Mylie Schmidt" that appeared on every line which implies she was present and play  
ing every time there was a loss to the casino.  
Since Mylie appears on ever line and there are 13 lines, the total number of times this player was playing  
is 13.
```

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Complete the dealer analysis.

1. Navigate to the Dealer_Analysis directory.
2. This file contains the dealer schedules for the various Lucky Duck casino games: Blackjack, Roulette, and Texas Hold 'Em.
 - Preview the schedule to view the format and to understand how the data is separated.

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$
ls -al
total 20
drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 27 21:04 .
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:33 ..
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:02 0310_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:04 0312_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:04 0315_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 0 Mar 27 20:35 Notes_Dealer_Analysis
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$
more 0310_Dealer_schedule
Hour AM/PM      BlackJack_Dealer_FNAME LAST      Roulette_Dealer_FNAME LAST      Texas_Hold_EM_dealer_FNAME
LAST
12:00:00 AM      Izabela Parrish Marlene Mcpherson      Madina Britton
01:00:00 AM      Billy Jones      Saima Mcdermott Summer-Louise Hammond
02:00:00 AM      Summer-Louise Hammond      Abigale Rich      John-James Hayward
03:00:00 AM      John-James Hayward      Evalyn Howell      Chyna Mercado

```

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Not sure I understand this file. Judging by the columns across the top it looks like these names are perhaps supposed to be distributed across each of these columns, but they are not. So I can assume by the spaces between the names that each name is for each column? Guessing....

- Using your findings from the player analysis, create a *separate script to look at each day and time* that you determined losses occurred. Use awk, pipes, and grep to isolate out the following four fields:
 - Time
 - a.m./p.m.
 - First name of roulette dealer
 - Last name of roulette dealer

The way I solved for this was to create a separate script for each Time with Date file since date was not present in losses output (so very tedious - 13 scripts!)

```

drwxr-xr-x 2 sysadmin sysadmin 4096 Mar 29 21:39 .
drwxr-xr-x 5 sysadmin sysadmin 4096 Mar 27 20:33 ..
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:02 0310_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:04 0312_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 1489 Mar 27 21:04 0315_Dealer_schedule
-rw-r--r-- 1 sysadmin sysadmin 2058 Mar 28 01:43 Dealers
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:29 dealers10.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:27 dealers11.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:27 dealers12.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:28 dealers13.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:31 dealers1.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:31 dealers2.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:32 dealers3.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:32 dealers4.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:32 dealers5.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:31 dealers6.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:30 dealers7.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:29 dealers8.sh
-rwxr-xr-x 1 sysadmin sysadmin 81 Mar 29 21:29 dealers9.sh
-rw-r--r-- 1 sysadmin sysadmin 0 Mar 28 02:43 Dealers_working_during_losses
-rw-r--r-- 1 sysadmin sysadmin 0 Mar 27 20:35 Notes_Dealer_Analysis
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Dealer_Analysis$

```

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The content of the scripts only change by time and the file being called, the rest remains the same:

```

sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Dealer_Analysis$ more dealers1.sh
#!/bin/bash
grep "05:00:00 AM" 0310_Dealer_schedule | awk '{print $1,$2,$5,$6}'
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Dealer_Analysis$

```

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After creating all the individual files for each time/file name, I changed the files to be executable using **chmod 755 dealers*.sh**.

- Run all of the scripts and append those results to a file called Dealers_working_during_losses.

Each script is then run and output the results to a file called Dealers_working_during_losses.


- ./dealers1.sh >> Dealers_working_during_losses etc.

5. Preview your file Dealers_working_during_losses and analyze the data.

- Record in the Notes_Dealer_Analysis file:
 - The primary dealer working at the times where losses occurred.
 - How many times the dealer worked when major losses occurred.

Confirmed results of script runs: Billy Jones was dealing at every game table where Mylie was present and there were losses

```
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Dealer_Analysis$ more Dealers_working_during_losses | wc -l
13
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Dealer_Analysis$ more Dealers_working_during_losses
05:00:00 AM Billy Jones
08:00:00 AM Billy Jones
02:00:00 PM Billy Jones
08:00:00 PM Billy Jones
11:00:00 PM Billy Jones
05:00:00 AM Billy Jones
08:00:00 AM Billy Jones
02:00:00 PM Billy Jones
08:00:00 PM Billy Jones
11:00:00 PM Billy Jones
05:00:00 AM Billy Jones
08:00:00 AM Billy Jones
02:00:00 PM Billy Jones
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Dealer_Analysis$ more Dealers_working_during_losses | wc -l
13
```



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6. Complete the player/employee correlation.

- In the notes file of the Player_Dealer_Correlation directory, add a summary of your findings noting the player and dealer you believe are colluding to scam Lucky Duck.
- Make sure to document your specific reasons for this finding.

Notes added to the Player_Dealer_Correlation_Notes file: (display using **more**)

```
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Player_Dealer_Correlation$ more Player_Dealer_Correlation_Notes
It is my finding that while investigating the Lucky Duck losses logs as well as
the dealers and players logs, all over the same timeframe (March 10/12/15) there
are two constants.

1. One player "Mylie Schmidt" was present at every Roulette table loss during th
ose dates. No other single person was present at all 13 Roulette table losses.

2. Billy Jones was the "primary dealer" at all 13 Roulette tables when these los
ses were experienced.

Since it appears these two people were the only two constants across all of the
losses, it would seem they were somehow acting in tandem.
```

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Step 4: Scripting Your Tasks

1. Remain in the Dealer_Analysis directory. Develop a shell script called roulette_dealer_finder_by_time.sh that can analyze the employee schedule to easily find the roulette dealer at a specific time.

Hint: You will be using a script similar to the one you created for the dealer analysis step, but you will not output the results into a file.

- Design the shell script to accept the following two arguments:
 - One for the date (four digits)
 - One for the time

Note: The argument should be able to accept a.m. or p.m.

First I created the following script called "roulette_dealer_finder_by_time.sh":

NOTE: The argument should be able to accept a.m. or p.m.

First I created the following script called "roulette_dealer_finder_by_time.sh":

```
#!/bin/bash
DATE=$1
TIME=$2
AMPM=$3

Filename=$DATE"_Dealer_schedule"

TIMESTAMP=$TIME" "$AMPM
awk '{print $1, $2, "\t"$5, $6}' $Filename | grep "$TIMESTAMP"
```

Then I saved the file as executable by **chmod 755**

Then I ran the script to test the results

```
sysadmin@UbuntuDesktop:~/Documents/Lucky_Duck_Investigations/Roulette_Loss_Inves
tigation/Dealer_Analysis$ ./roulette_dealer_finder_by_time.sh 0310 05:00:00 AM
05:00:00 AM    Billy Jones
```

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