

Step 1: Investigation Preparation

Your first task is to set up directories to prepare for your investigation.

- A.** Begin by making a single directory titled `Lucky_Duck_Investigations`
- B.** In this directory, create a directory for this specific investigation titled `Roulette_Loss_Investigation`
- C.** In `Roulette_Loss_Investigation` , create the following directories:
 - `Player_Analysis` to investigate the casino player.
 - `Dealer_Analysis` to investigate the dealers.
 - `Player_Dealer_Correlation` to summarize your findings of the collusion.
- D.** Create empty files called `Notes_<Directory Name>` under each subdirectory to store investigation notes.

**Notes: I decided to put the folder into the Desktop location to start and make it easier to organize and view or reference files as needed. The notes and instructions did NOT indicate where they should be placed specifically. Just wanted to make a forward note for this as the class Slack group mentioned to start in the home folder only, vs the instructions of the homework.*

Followed all steps above thereafter creating the Lucky_Duck_Investigations folder.

```

sysadmin@ubuntuucub: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help

Today is the tomorrow you worried about
yesterday.

o_o
( )
( )
( )

sysadmin@ubuntuucub:~$ mkdir -p ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis/
sysadmin@ubuntuucub:~$ mkdir -p ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis/
sysadmin@ubuntuucub:~$ mkdir -p ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation
sysadmin@ubuntuucub:~$ cd Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis/
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ touch Notes_Player_Analysis
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ cp Notes_Player_Analysis ../Dealer_Analysis/
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ cd ../Dealer_Analysis/
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ mv Notes_Player_Analysis Dealer_Player_Analysis
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cp Notes_Dealer_Analysis ../Player_Dealer_Correlation/
cp: cannot stat 'Notes_Dealer_Analysis': No such file or directory
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ mv Dealer_Player_Analysis Notes_Dealer_Analysis
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cp Notes_Dealer_Analysis ../Player_Dealer_Correlation/
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ mv Dealer_Player_Analysis Notes_Dealer_Analysis
mv: cannot stat 'Dealer_Player_Analysis': No such file or directory
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ mv Note_Dealer_Analysis Notes_Player_Dealer_Correlation
mv: cannot stat 'Note_Dealer_Analysis': No such file or directory
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ls
Notes_Dealer_Analysis
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cd ../Player_Dealer_Correlation/
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation$ ls
Notes_Dealer_Analysis
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation$ mv Notes_Dealer_Analysis Notes_Player_Dealer_Correlation
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation$ ls
Notes_Player_Dealer_Correlation
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation$ cd ../Player_Analysis/
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ ls
Notes_Player_Analysis
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ cd ../Dealer_Analysis/
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ls
Notes_Dealer_Analysis
sysadmin@ubuntuucub:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$

```

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
```

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.

**Notes: All files downloaded successfully in this step with no issues.*

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cd ../../
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$ wget "https://tinyurl.com/3-HW-setup-evidence" && chmod +x ./3-HW-setup-evidence && ./3-HW-setup-evidence
--2022-01-09 00:48:16-- https://tinyurl.com/3-HW-setup-evidence
Resolving tinyurl.com (tinyurl.com)... 104.20.139.65, 172.67.1.225, 104.20.138.65, ...
Connecting to tinyurl.com (tinyurl.com)|104.20.139.65|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://gist.githubusercontent.com/eddius/e57fcb9510dd18225142cb23f236da24/raw/39f7f71b22ae7997e92d82e57aedd02bbb6dd481/Setup_Evidence_Files.sh [following]
--2022-01-09 00:48:22-- https://gist.githubusercontent.com/eddius/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 0.005s

2022-01-09 00:48:22 (6.23 MB/s) - '3-HW-setup-evidence' saved [32625/32625]

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$ ls
3-HW-setup-evidence Dealer_Schedules_0310 Roulette_Loss_Investigation Roulette_Player_WinLoss_0310
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$ tree
.
├── 3-HW-setup-evidence
│   └── Dealer_Schedules_0310
│       ├── 0310_Dealer_schedule
│       ├── 0311_Dealer_schedule
│       ├── 0312_Dealer_schedule
│       ├── 0313_Dealer_schedule
│       ├── 0314_Dealer_schedule
│       ├── 0315_Dealer_schedule
│       ├── 0316_Dealer_schedule
│       └── 0317_Dealer_schedule
├── Roulette_Loss_Investigation
│   ├── Dealer_Analysis
│   │   └── Notes_Dealer_Analysis
│   ├── Player_Analysis
│   │   ├── Notes_Player_Analysis
│   │   └── Player_Dealer_Correlation
│   │       └── Notes_Player_Dealer_Correlation
│   └── Roulette_Player_WinLoss_0310
│       ├── 0310_win_loss_player_data
│       ├── 0311_win_loss_player_data
│       ├── 0312_win_loss_player_data
│       ├── 0313_win_loss_player_data
│       ├── 0314_win_loss_player_data
│       ├── 0315_win_loss_player_data
│       ├── 0316_win_loss_player_data
│       └── 0317_win_loss_player_data
└── 6 directories, 20 files
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$

```

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

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations
File Edit View Search Terminal Help
├── 0311_win_loss_player_data
├── 0312_win_loss_player_data
├── 0313_win_loss_player_data
├── 0314_win_loss_player_data
├── 0315_win_loss_player_data
├── 0316_win_loss_player_data
└── 0317_win_loss_player_data
6 directories, 20 files
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$ cd Dealer_Schedules_0310/
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Dealer_Schedules_0310$ mv 0310* 0312* 0315* ../Roulette_Loss_Investigation/Dealer_Analysis/
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Dealer_Schedules_0310$ cd ../Roulette_Player_WinLoss_0310/
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Player_WinLoss_0310$ mv 0310* 0312* 0315* ../Roulette_Loss_Investigation/Player_Analysis/
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Player_WinLoss_0310$ cd ..
cd: command not found
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Player_WinLoss_0310$ cd ..
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$ tree
.
├── 3-HW-setup-evidence
├── Dealer_Schedules_0310
│   ├── 0311_Dealer_schedule
│   ├── 0313_Dealer_schedule
│   ├── 0314_Dealer_schedule
│   ├── 0316_Dealer_schedule
│   └── 0317_Dealer_schedule
├── Roulette_Loss_Investigation
│   ├── Dealer_Analysis
│   │   ├── 0310_Dealer_schedule
│   │   ├── 0312_Dealer_schedule
│   │   ├── 0315_Dealer_schedule
│   │   └── Notes_Dealer_Analysis
│   ├── Player_Analysis
│   │   ├── 0310_win_loss_player_data
│   │   ├── 0312_win_loss_player_data
│   │   ├── 0315_win_loss_player_data
│   │   └── Notes_Player_Analysis
│   ├── Player_Dealer_Correlation
│   │   └── Notes_Player_Dealer_Correlation
└── Roulette_Player_WinLoss_0310
    ├── 0311_win_loss_player_data
    ├── 0313_win_loss_player_data
    ├── 0314_win_loss_player_data
    ├── 0316_win_loss_player_data
    └── 0317_win_loss_player_data
6 directories, 20 files
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$

```

Step 3: Correlating the Evidence

Your next task is to correlate the large losses from the roulette tables with the dealer schedule. This will help you determine which dealer and player are colluding to steal money from Lucky Duck. Note: Winnings for Lucky Duck Casino are indicated with a positive number and losses are indicated with a negative number.

Complete the player analysis.

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

**Notes: Used grep to search for “-” since all of the losses should have a negative symbol to easily find the lines that were needed for the Roulette_Losses file.*


```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis
File Edit View Search Terminal Help

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations$ cd Roulette_Loss_Investigation/
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation$ cd Player_Analysis/
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ ls
0310_win_loss_player_data  0312_win_loss_player_data  0315_win_loss_player_data  Notes_Player_Analysis
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ grep - 031*
0310_win_loss_player_data:05:00:00 AM -$82,348 Amirah Schneider,Nola Portillo, Mylie Schmidt,Suhayb Maguire,Millicent Betts,Avi Graves
0310_win_loss_player_data:08:00:00 AM -$97,383 Chanelle Tapia, Shelley Dodson , Valentino Smith, Mylie Schmidt
0310_win_loss_player_data:02:00:00 PM -$82,348 Jaden Clarkson, Kaidan Sheridan, Mylie Schmidt
0310_win_loss_player_data:08:00:00 PM -$65,348 Mylie Schmidt, Trixie Velasquez, Jerome Klein ,Rahma Buckley
0310_win_loss_player_data:11:00:00 PM -$88,383 Mcfadden Wasim, Norman Cooper, Mylie Schmidt
0312_win_loss_player_data:05:00:00 AM -$182,300 Montana Kirk, Alysia Goodman, Halima Little, Etienne Brady, Mylie Schmidt
0312_win_loss_player_data:08:00:00 AM -$97,383 Rimsha Gardiner,Fern Cleveland, Mylie Schmidt,Kobe Higgins
0312_win_loss_player_data:02:00:00 PM -$82,348 Mae Hail, Mylie Schmidt,Ayden Beil
0312_win_loss_player_data:08:00:00 PM -$65,792 Tallulah Rawlings,Josie Dawe, Mylie Schmidt,Hakim Stott, Esther Callaghan, Ciaran Villanueva
0312_win_loss_player_data:11:00:00 PM -$88,229 Vlad Hatfield,Kerys Frazier,Mya Butler, Mylie Schmidt,Lex Oakley,Elin Wormald
0315_win_loss_player_data:05:00:00 AM -$82,844 Arjan Guzman,Sommer Mann, Mylie Schmidt
0315_win_loss_player_data:08:00:00 AM -$97,001 Lilianna Devlin,Brendan Lester, Mylie Schmidt,Blade Robertson,Derrick Schroeder
0315_win_loss_player_data:02:00:00 PM -$182,419 Mylie Schmidt, Corey Huffman
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ grep - 031* > Roulette_Losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ cat Roulette_Losses
0310_win_loss_player_data:05:00:00 AM -$82,348 Amirah Schneider,Nola Portillo, Mylie Schmidt,Suhayb Maguire,Millicent Betts,Avi Graves
0310_win_loss_player_data:08:00:00 AM -$97,383 Chanelle Tapia, Shelley Dodson , Valentino Smith, Mylie Schmidt
0310_win_loss_player_data:02:00:00 PM -$82,348 Jaden Clarkson, Kaidan Sheridan, Mylie Schmidt
0310_win_loss_player_data:08:00:00 PM -$65,348 Mylie Schmidt, Trixie Velasquez, Jerome Klein ,Rahma Buckley
0310_win_loss_player_data:11:00:00 PM -$88,383 Mcfadden Wasim, Norman Cooper, Mylie Schmidt
0312_win_loss_player_data:05:00:00 AM -$182,300 Montana Kirk, Alysia Goodman, Halima Little, Etienne Brady, Mylie Schmidt
0312_win_loss_player_data:08:00:00 AM -$97,383 Rimsha Gardiner,Fern Cleveland, Mylie Schmidt,Kobe Higgins
0312_win_loss_player_data:02:00:00 PM -$82,348 Mae Hail, Mylie Schmidt,Ayden Beil
0312_win_loss_player_data:08:00:00 PM -$65,792 Tallulah Rawlings,Josie Dawe, Mylie Schmidt,Hakim Stott, Esther Callaghan, Ciaran Villanueva
0312_win_loss_player_data:11:00:00 PM -$88,229 Vlad Hatfield,Kerys Frazier,Mya Butler, Mylie Schmidt,Lex Oakley,Elin Wormald
0315_win_loss_player_data:05:00:00 AM -$82,844 Arjan Guzman,Sommer Mann, Mylie Schmidt
0315_win_loss_player_data:08:00:00 AM -$97,001 Lilianna Devlin,Brendan Lester, Mylie Schmidt,Blade Robertson,Derrick Schroeder
0315_win_loss_player_data:02:00:00 PM -$182,419 Mylie Schmidt, Corey Huffman
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$

```

**Notes: Used Nano in the following step to make edits to the file formatting. Not all of the data that were taken from the original win loss data was formatted correctly. There are some columns utilizing spaces vs tabs, or there were extra spaces and tabs there making the next step of organizing the data difficult or not work correctly. Some of the commas were also not spaced correctly, and those were adjusted as well.*

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis
File Edit View Search Terminal Help
GNU nano 2.9.3 Roulette_Losses

0310_win_loss_player_data      05:00:00 AM      -$82,348      Amirah Schneider, Nola Portillo, Mylie Schmidt, Suhayb $
0310_win_loss_player_data      08:00:00 AM      -$97,383      Chanelle Tapia, Shelley Dodson, Valentino Smith, Mylie $
0310_win_loss_player_data      02:00:00 PM      -$82,348      Jaden Clarkson, Kaidan Sheridan, Mylie Schmidt
0310_win_loss_player_data      08:00:00 PM      -$65,348      Mylie Schmidt, Trixie Velasquez, Jerome Klein, Rahma Bu$
0310_win_loss_player_data      11:00:00 PM      -$88,383      Mcfadden Wasim, Norman Cooper, Mylie Schmidt
0312_win_loss_player_data      05:00:00 AM      -$182,300     Montana Kirk, Alysia Goodman, Halima Little, Etienne Br$
0312_win_loss_player_data      08:00:00 AM      -$97,383      Rimsha Gardiner, Fern Cleveland, Mylie Schmidt, Kobe Hi$
0312_win_loss_player_data      02:00:00 PM      -$82,348      Mae Hail, Mylie Schmidt, Ayden Beil
0312_win_loss_player_data      08:00:00 PM      -$65,792      Tallulah Rawlings, Josie Dawe, Mylie Schmidt, Hakim Sto$
0312_win_loss_player_data      11:00:00 PM      -$88,229      Vlad Hatfield, Kerys Frazier, Mya Butler, Mylie Schmidt$
0315_win_loss_player_data      05:00:00 AM      -$82,844      Arjan Guzman, Sommer Mann, Mylie Schmidt
0315_win_loss_player_data      08:00:00 AM      -$97,001      Lilianna Devlin, Brendan Lester, Mylie Schmidt, Blade R$
0315_win_loss_player_data      02:00:00 PM      -$182,419     Mylie Schmidt, Corey Huffman

^G Get Help      ^O Write Out     ^W Where Is      ^K Cut Text      ^J Justify      ^C Cur Pos      M-U Undo      M-A Mark Text
^X Exit          ^R Read File     ^_ Replace       ^U Uncut Text   ^T To Spell    ^_ Go To Line   M-E Redo      M-C Copy Text

```

Record in the Notes_Player_Analysis file:
 -The times the losses occurred on each day.

**Notes:* Used the awk command with the delineator as tab “\t” to output the times, money lost, and players list from the Roulette_Losses file and output the data to Notes_Player_Analysis. Used cat on the file to show the results.

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ awk -F'\t' '{print $2, $3, $4}' Roulette_Losses > Notes_Player_Analysis
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ cat Notes_Player_Analysis
05:00:00 AM -$82,348 Amirah Schneider, Nola Portillo, Mylie Schmidt, Suhayb Maguire, Millicent Betts, 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, Halina 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 Hall, Mylie Schmidt, Ayden Bell
08:00:00 PM -$65,792 Tallulah Rawlings, Josie Dawe, Mylie Schmidt, Hakim Stott, Esther Callaghan, Claron Villanueva
11:00:00 PM -$89,229 Vlad Hatfield, Kerys Frazier, Mya Butler, Mylie Schmidt, Lex Oakley, Elin Wornald
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 Schroeder
02:00:00 PM -$182,419 Mylie Schmidt, Corey Huffman
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ ls
0310_win_loss_player_data 0312_win_loss_player_data 0315_win_loss_player_data Notes_Player_Analysis Roulette_Losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$

```

-If there is a certain player that was playing during each of those times.

-The total count of times this player was playing.

**Notes:* Decided to used a compounded piped together command to ogranize the data input. Awk the data with the “-F” field set as “tabs” (\t) and then output the column of names in the Roulette_Losses file, which I input to clean up the names with sed by replacing every “,” with a “new line” in order to use the sort command. Sorted the data in A-Z order. This allowed me to use the uniq command and “-c” count the number of names that repeated resulting in a count of Mylie Schmidt showing up 13 times.

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ awk -F'\t' '{print $4}' Roulette_Losses | sed 's/,/\n/g' |
awk '{($1:print)}' | sort | uniq -c
  1 Alysia Goodman
  1 Amirah Schneider
  1 Arjan Guzman
  1 Avi Graves
  1 Ayden Bell
  1 Blade Robertson
  1 Brendan Lester
  1 Chanelle Tapia
  1 Claron Villanueva
  1 Corey Huffman
  1 Derrick Schroeder
  1 Elin Wornald
  1 Esther Callaghan
  1 Etienne Brady
  1 Fern Cleveland
  1 Hakim Stott
  1 Halina Little
  1 Jaden Clarkson
  1 Jerome Klein
  1 Josie Dawe
  1 Kaidan Sheridan
  1 Kerys Frazier
  1 Kobe Higgins
  1 Lex Oakley
  1 Lilianna Devlin
  1 Mae Hall
  1 Mcfadden Wasim
  1 Millicent Betts
  1 Montana Kirk
  1 Mya Butler
  1 Mylie Schmidt
 13 Nola Portillo
  1 Norman Cooper
  1 Rahma Buckley
  1 Rimsha Gardiner
  1 Shelley Dodson
  1 Sommer Mann
  1 Suhayb Maguire
  1 Tallulah Rawlings
  1 Trixie Velasquez
  1 Valentino Smith
  1 Vlad Hatfield
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ awk -F'\t' '{print $4}' Roulette_Losses | sed 's/,/\n/g' |
awk '{($1:print)}' | sort | uniq -cd
 13 Mylie Schmidt
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$

```


Complete the dealer analysis.

0. Navigate to the Dealer_Analysis directory.

1. 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.

**Notes: Used the cat command to view all of the files in the folder with 031* as the search term for all of the file dates start with 031.*

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Analysis$ cd ../Dealer_Analysis/
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat 031*
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
04:00:00 AM      Chyna Mercado      Cleveland Hanna Katey Bean
05:00:00 AM      Katey Bean      Billy Jones      Evalyn Howell
06:00:00 AM      Evalyn Howell      Saima Mcdermott Cleveland Hanna
07:00:00 AM      Cleveland Hanna Abigale Rich      Billy Jones
08:00:00 AM      Rahina Figueroa Billy Jones      Madina Britton
09:00:00 AM      Marlene Mcpherson      Cleveland Hanna Summer-Louise Hammond
10:00:00 AM      Izabela Parrish Madina Britton      John-James Hayward
11:00:00 AM      Madina Britton      Summer-Louise Hammond      Chyna Mercado
12:00:00 PM      Summer-Louise Hammond      John-James Hayward      Katey Bean
01:00:00 PM      John-James Hayward      Chyna Mercado      Evalyn Howell
02:00:00 PM      Chyna Mercado      Billy Jones      Cleveland Hanna
03:00:00 PM      Katey Bean      Evalyn Howell      Rahina Figueroa
04:00:00 PM      Evalyn Howell      Cleveland Hanna Billy Jones
05:00:00 PM      Billy Jones      Rahina Figueroa Summer-Louise Hammond
06:00:00 PM      Rahina Figueroa John-James Hayward      John-James Hayward
07:00:00 PM      Marlene Mcpherson      Chyna Mercado      Chyna Mercado
08:00:00 PM      Saima Mcdermott Billy Jones      Katey Bean
09:00:00 PM      Abigale Rich      Evalyn Howell      Billy Jones
10:00:00 PM      Evalyn Howell      Katey Bean      Cleveland Hanna
11:00:00 PM      Cleveland Hanna Billy Jones      Rahina Figueroa
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
04:00:00 AM      Chyna Mercado      Cleveland Hanna Katey Bean
05:00:00 AM      Katey Bean      Billy Jones      Evalyn Howell
06:00:00 AM      Evalyn Howell      Saima Mcdermott Cleveland Hanna
07:00:00 AM      Cleveland Hanna Abigale Rich      Billy Jones
08:00:00 AM      Rahina Figueroa Billy Jones      Madina Britton
09:00:00 AM      Marlene Mcpherson      Cleveland Hanna Summer-Louise Hammond
10:00:00 AM      Izabela Parrish Madina Britton      John-James Hayward
11:00:00 AM      Madina Britton      Summer-Louise Hammond      Chyna Mercado
12:00:00 PM      Summer-Louise Hammond      John-James Hayward      Katey Bean
01:00:00 PM      John-James Hayward      Chyna Mercado      Evalyn Howell
02:00:00 PM      Chyna Mercado      Billy Jones      Cleveland Hanna
03:00:00 PM      Katey Bean      Evalyn Howell      Rahina Figueroa
04:00:00 PM      Evalyn Howell      Cleveland Hanna Billy Jones
05:00:00 PM      Billy Jones      Rahina Figueroa Summer-Louise Hammond
06:00:00 PM      Rahina Figueroa John-James Hayward      John-James Hayward
07:00:00 PM      Marlene Mcpherson      Chyna Mercado      Chyna Mercado
08:00:00 PM      Saima Mcdermott Billy Jones      Katey Bean
09:00:00 PM      Abigale Rich      Evalyn Howell      Billy Jones
10:00:00 PM      Evalyn Howell      Katey Bean      Cleveland Hanna
11:00:00 PM      Cleveland Hanna Billy Jones      Rahina Figueroa
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

```

2. 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

**Notes:* Used the `grep` command to look for “:” since all of the files contained “:” to separate the time numbers and sent all of that data to the file `Dealers_Nano` to work with further cleaning and organizing the data. The `grep` allowed me to put all of the files into a single file to pull data from later.

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ grep : 031* > Dealers_Nano
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat Dealers_Nano
0310_Dealer_schedule:12:00:00 AM Izabela Parrish Marlene Mcpherson Madina Britton
0310_Dealer_schedule:01:00:00 AM Billy Jones Salma Mcdermott Summer-Louise Hammond
0310_Dealer_schedule:02:00:00 AM Summer-Louise Hammond Abigale Rich John-James Hayward
0310_Dealer_schedule:03:00:00 AM John-James Hayward Evalyn Howell Chyna Mercado
0310_Dealer_schedule:04:00:00 AM Chyna Mercado Cleveland Hanna Katey Bean
0310_Dealer_schedule:05:00:00 AM Katey Bean Billy Jones Evalyn Howell
0310_Dealer_schedule:06:00:00 AM Evalyn Howell Salma Mcdermott Cleveland Hanna
0310_Dealer_schedule:07:00:00 AM Cleveland Hanna Abigale Rich Billy Jones
0310_Dealer_schedule:08:00:00 AM Rahima Figueroa Billy Jones Madina Britton
0310_Dealer_schedule:09:00:00 AM Marlene Mcpherson Cleveland Hanna Summer-Louise Hammond
0310_Dealer_schedule:10:00:00 AM Izabela Parrish Madina Britton John-James Hayward
0310_Dealer_schedule:11:00:00 AM Madina Britton Summer-Louise Hammond Chyna Mercado
0310_Dealer_schedule:12:00:00 PM Summer-Louise Hammond John-James Hayward Katey Bean
0310_Dealer_schedule:01:00:00 PM John-James Hayward Chyna Mercado Evalyn Howell
0310_Dealer_schedule:02:00:00 PM Chyna Mercado Billy Jones Cleveland Hanna
0310_Dealer_schedule:03:00:00 PM Katey Bean Evalyn Howell Rahima Figueroa
0310_Dealer_schedule:04:00:00 PM Evalyn Howell Cleveland Hanna Billy Jones
0310_Dealer_schedule:05:00:00 PM Billy Jones Rahima Figueroa Summer-Louise Hammond
0310_Dealer_schedule:06:00:00 PM Rahima Figueroa John-James Hayward John-James Hayward
0310_Dealer_schedule:07:00:00 PM Marlene Mcpherson Chyna Mercado Chyna Mercado
0310_Dealer_schedule:08:00:00 PM Salma Mcdermott Billy Jones Katey Bean
0310_Dealer_schedule:09:00:00 PM Abigale Rich Evalyn Howell Billy Jones
0310_Dealer_schedule:10:00:00 PM Evalyn Howell Katey Bean Cleveland Hanna
0310_Dealer_schedule:11:00:00 PM Cleveland Hanna Billy Jones Rahima Figueroa
0312_Dealer_schedule:12:00:00 AM Izabela Parrish Marlene Mcpherson Madina Britton
0312_Dealer_schedule:01:00:00 AM Billy Jones Salma Mcdermott Summer-Louise Hammond
0312_Dealer_schedule:02:00:00 AM Summer-Louise Hammond Abigale Rich John-James Hayward
0312_Dealer_schedule:03:00:00 AM John-James Hayward Evalyn Howell Chyna Mercado
0312_Dealer_schedule:04:00:00 AM Chyna Mercado Cleveland Hanna Katey Bean
0312_Dealer_schedule:05:00:00 AM Katey Bean Billy Jones Evalyn Howell
0312_Dealer_schedule:06:00:00 AM Evalyn Howell Salma Mcdermott Cleveland Hanna
0312_Dealer_schedule:07:00:00 AM Cleveland Hanna Abigale Rich Billy Jones
0312_Dealer_schedule:08:00:00 AM Rahima Figueroa Billy Jones Madina Britton

```

**Notes:* In the following side step in organizing the data to be more human readable with all of the schedule information in one file, I used the `sed` command to substitute all of the file names to a more human readable date file to test the output.

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat Dealers_Nano | sed 's/0310_Dealer_
schedule/March10/g' | sed 's/0312_Dealer_schedule/March12/g' | sed 's/0315_Dealer_schedule/March15/g' > Dealers_NanoDated
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat Dealers_NanoDated
March10:12:00:00 AM Izabela Parrish Marlene Mcpherson Madina Britton
March10:01:00:00 AM Billy Jones Saima Mcdermott Summer-Louise Hammond
March10:02:00:00 AM Summer-Louise Hammond Abigale Rich John-James Hayward
March10:03:00:00 AM John-James Hayward Evalyn Howell Chyna Mercado
March10:04:00:00 AM Chyna Mercado Cleveland Hanna Katey Bean
March10:05:00:00 AM Katey Bean Billy Jones Evalyn Howell
March10:06:00:00 AM Evalyn Howell Saima Mcdermott Cleveland Hanna
March10:07:00:00 AM Cleveland Hanna Abigale Rich Billy Jones
March10:08:00:00 AM Rahima Figueroa Billy Jones Madina Britton
March10:09:00:00 AM Marlene Mcpherson Cleveland Hanna Summer-Louise Hammond
March10:10:00:00 AM Izabela Parrish Madina Britton John-James Hayward
March10:11:00:00 AM Madina Britton Summer-Louise Hammond Chyna Mercado
March10:12:00:00 PM Summer-Louise Hammond John-James Hayward Katey Bean
March10:01:00:00 PM John-James Hayward Chyna Mercado Evalyn Howell
March10:02:00:00 PM Chyna Mercado Billy Jones Cleveland Hanna
March10:03:00:00 PM Katey Bean Evalyn Howell Rahima Figueroa
March10:04:00:00 PM Evalyn Howell Cleveland Hanna Billy Jones
March10:05:00:00 PM Billy Jones Rahima Figueroa Summer-Louise Hammond
March10:06:00:00 PM Rahima Figueroa John-James Hayward John-James Hayward
March10:07:00:00 PM Marlene Mcpherson Chyna Mercado Chyna Mercado
March10:08:00:00 PM Saima Mcdermott Billy Jones Katey Bean
March10:09:00:00 PM Abigale Rich Evalyn Howell Billy Jones
March10:10:00:00 PM Evalyn Howell Katey Bean Cleveland Hanna
March10:11:00:00 PM Cleveland Hanna Billy Jones Rahima Figueroa
March12:12:00:00 AM Izabela Parrish Marlene Mcpherson Madina Britton
March12:01:00:00 AM Billy Jones Saima Mcdermott Summer-Louise Hammond
March12:02:00:00 AM Summer-Louise Hammond Abigale Rich John-James Hayward
March12:03:00:00 AM John-James Hayward Evalyn Howell Chyna Mercado
March12:04:00:00 AM Chyna Mercado Cleveland Hanna Katey Bean
March12:05:00:00 AM Katey Bean Billy Jones Evalyn Howell
March12:06:00:00 AM Evalyn Howell Saima Mcdermott Cleveland Hanna
March12:07:00:00 AM Cleveland Hanna Abigale Rich Billy Jones
March12:08:00:00 AM Rahima Figueroa Billy Jones Madina Britton
March12:09:00:00 AM Marlene Mcpherson Cleveland Hanna Summer-Louise Hammond
March12:10:00:00 AM Izabela Parrish Madina Britton John-James Hayward

```

**Notes: While continuing my test with the different commands in organizing the data since the human-readable dates worked, I ran a piped a new command with awk to pull just the date, times, and Roulette Dealer only in the file and sent it to a temporary Dealers_RouletteTable file to show just those particular dealer names.*


```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat Dealers_Nano | sed 's/0310_Dealer_schedule/March
10/g' | sed 's/0312_Dealer_schedule/March12/g' | sed 's/0315_Dealer_schedule/March15/g' | awk -F"t" '{print $1, $3}' > Dealers_RouletteTable
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat Dealers_RouletteTable
March10:12:00:00 AM Marlene Mcpherson
March10:01:00:00 AM Salma Mcdermott
March10:02:00:00 AM Abigale Rich
March10:03:00:00 AM Evalyn Howell
March10:04:00:00 AM Cleveland Hanna
March10:05:00:00 AM Billy Jones
March10:06:00:00 AM Salma Mcdermott
March10:07:00:00 AM Abigale Rich
March10:08:00:00 AM Billy Jones
March10:09:00:00 AM Cleveland Hanna
March10:10:00:00 AM Madina Britton
March10:11:00:00 AM Summer-Louise Hammond
March10:12:00:00 PM John-James Hayward
March10:01:00:00 PM Chyna Mercado
March10:02:00:00 PM Billy Jones
March10:03:00:00 PM Evalyn Howell
March10:04:00:00 PM Cleveland Hanna
March10:05:00:00 PM Rahina Figueroa
March10:06:00:00 PM John-James Hayward
March10:07:00:00 PM Chyna Mercado
March10:08:00:00 PM Billy Jones
March10:09:00:00 PM Evalyn Howell
March10:10:00:00 PM Katey Bean
March10:11:00:00 PM Billy Jones
March12:12:00:00 AM Marlene Mcpherson
March12:01:00:00 AM Salma Mcdermott
March12:02:00:00 AM Abigale Rich
March12:03:00:00 AM Evalyn Howell
March12:04:00:00 AM Cleveland Hanna
March12:05:00:00 AM Billy Jones
March12:06:00:00 AM Salma Mcdermott
March12:07:00:00 AM Abigale Rich
March12:08:00:00 AM Billy Jones
March12:09:00:00 AM Cleveland Hanna
March12:10:00:00 AM Madina Britton
March12:11:00:00 AM Summer-Louise Hammond
March12:12:00:00 PM John-James Hayward
March12:01:00:00 PM Chyna Mercado
March12:02:00:00 PM Billy Jones
March12:03:00:00 PM Evalyn Howell
March12:04:00:00 PM Cleveland Hanna
March12:05:00:00 PM Rahina Figueroa
Notes sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$

```

**Notes: With all of the data organized, I was able to test and come up with a single grep command for each date to pull the name of the Roulette Dealer in preparation for the script.*

```

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ tree
.
├── 0310_Dealer_schedule
├── 0312_Dealer_schedule
├── 0315_Dealer_schedule
├── Dealers_Nano
├── Dealers_NanoDated
├── Dealers_RouletteTable
└── Notes_Dealer_Analysis

0 directories, 7 files
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ grep "March12:05:00:00 AM" Dealers_RouletteTable
March12:05:00:00 AM Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ grep "March10:05:00:00 AM" Dealers_RouletteTable
March10:05:00:00 AM Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$

```

**Notes: Started a new file in nano to write a grep command for the script. The script(s) were named the respective dates, thus the inputs in the scripts were \$1 for the 2 digit time slot and \$2 for indicating whether it was AM or PM.*

```
cat 0310_Dealer_schedule | awk -F" " '{print $1, $2, $5,$6}'|
grep '08:00:00 AM' >> Dealers_working_during_losses
```

```
sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
GNU nano 2.9.3 March10RD.sh Modified
#!/bin/bash
# This is a script for running March 10's Roulette Dealers
grep "March10:$1:00:00 $2" Dealers_RouletteTable
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^_ Replace ^U Uncut Text ^T To Linter ^_ Go To Line
```

**Notes:* Saved the script file as the name of the date and closed out nano. Then used chmod to change the mode of the file to an executable file with “chmod +x” for my March10RD.sh script file. Ran a test with the “05” hour and “AM” inputs for the script to make sure it ran correctly.

I then copied the original March10RD.sh for to March12RD.sh and March15RD.sh for the subsequent dates needed. Used nano for each of those files to update the dates in the script to correspond correctly. Have a total of 3 scripts, 1 script for each date.

```
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ chmod +x March10RD.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 05 AM
march10:05:00:00 AM Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cp March10RD.sh March12RD.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cp March10RD.sh March15RD.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ^C
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ nano March12RD.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ nano March15RD.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ tree
.
├── 0310_Dealer_schedule
├── 0312_Dealer_schedule
├── 0315_Dealer_schedule
├── Dealers_Nano
├── Dealers_NanoDated
├── Dealers_RouletteTable
├── March10RD.sh
├── March12RD.sh
├── March15RD.sh
└── Notes_Dealer_Analysis
0 directories, 10 files
```

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

**Notes:* Ran all of scripts with the times of the losses seen in the Notes_Player_Analysis file. Appended the outputs with the ">>" to the Dealers_working_during_losses file.

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
March15:08:00:00 AM Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March15RD.sh 02 PM
March15:02:00:00 PM Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 05 AM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 05^CM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 05 AM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 08 AM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 02 PM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 08 PM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March10RD.sh 11 PM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March12RD.sh 05 AM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March12RD.sh 08 AM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March12RD.sh 02 PM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March12RD.sh 08 PM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March12RD.sh 11 PM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March15RD.sh 05 AM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March15RD.sh 08 AM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./March15RD.sh 02 PM >> Dealers_working_during_losses
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat Dealers_working_during_losses
March10:05:00:00 AM Billy Jones
March10:08:00:00 AM Billy Jones
March10:02:00:00 PM Billy Jones
March10:08:00:00 PM Billy Jones
March10:11:00:00 PM Billy Jones
March12:05:00:00 AM Billy Jones
March12:08:00:00 AM Billy Jones
March12:02:00:00 PM Billy Jones
March12:08:00:00 PM Billy Jones
March12:11:00:00 PM Billy Jones
March15:05:00:00 AM Billy Jones
March15:08:00:00 AM Billy Jones
March15:02:00:00 PM Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$

```

4. Preview your file Dealers_working_during_losses and analyze the data.

**Notes:* Used cat in the previous screenshot to preview 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.

**Notes:* Used the awk command to take the column for the First and Last name of the dealers listed in the Dealers_working_during_losses file, then used the "uniq -c" command to count the number of times Billy Jones occurred and sent the data to Notes_Dealer_Analysis.

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ awk '{print $3, $4}' Dealers_working_during_losses
| uniq -c > Notes_Dealer_Analysis
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ cat Notes_Dealer_Analysis
13 Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$

```

5. 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.


```

sysadmin@ubuntu: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Player_Dealer_Correlation
GNU nano 2.9.3 Notes_Player_Dealer_Correlation

After conducting an investigation into the losses of Lucky Duck Casino between the Players and the Dealers, my findings indicate that
there is indeed a Player likely colluding with a Dealer at the Roulette tables to steal money from the casino.

All of the significant loss dates (March 10, 12, and 15) and times provided have a common player named Mylie Schmidt playing at the
Roulette tables.

When comparing those loss dates and times with the Dealer schedules, I have found that Billy Jones has been on shift for all of the times
that Mylie Schmidt has been playing.

All 13 time slots with losses during when Mylie Schmidt was playing match up to the 13 times Billy Jones was on his shift at the Roulette
tables.

[ Wrote 11 lines ]
^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos   ^U Undo      ^M Mark Text  ^_ To Bracket
^X Exit      ^R Read File  ^\ Replace   ^U Uncut Text ^T To Spell   ^_ Go To Line ^E Redo      ^G Copy Text  ^N WhereIs Next

```

Step 4: Scripting Your Tasks

Your manager is impressed with the work you have done so far on the investigation. They tasked you with building a shell script that can easily analyze future employee schedules. They will use this to determine which employee was working at a specific time in the case of future losses.

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

**Notes: Opened up nano for a new script file "roulette_dealer_finder_by_time.sh" and modified the script to output the name of the dealer working the Roulette table only when you input the date (\$1), time (\$2), and whether it was AM or PM (\$3). The script then takes the line data of the grep command to output just the name of the dealer in awk for clarity.*

```
cat $1_Dealer_schedule | awk -F " " '{print $1, $2, $5,$6}' | grep "$2"
```

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
GNU nano 2.9.3 roulette_dealer_finder_by_time.sh

This is a script that can analyze the employee schedule to easily find the roulette dealer at a specific time.
#!/bin/bash

grep "$2:00:00 $3" $1_Dealer_schedule | awk -F"\t" '{print $3}'

[ Read 6 lines ]
^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos   ^U Undo       ^M Mark Text  ^] To Bracket  ^_ Previous
^X Exit      ^R Read File  ^\ Replace   ^U Uncut Text ^I To Linter  ^_ Go To Line ^E Redo       ^G Copy Text  ^W WhereIs Next ^N Next

```

2. Test your script on the schedules to confirm it outputs the correct dealer at the time specified.

**Notes: Made the new script file executable and then tested the new script with some different dates and it works with outputting the Roulette dealer working that date and time.*

```

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ nano roulette_dealer_finder_by_time.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ chmod +x roulette_dealer_finder_by_time.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./roulette_dealer_finder_by_time.sh 0310 05 AM
Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./roulette_dealer_finder_by_time.sh 0312 05 AM
Billy Jones
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$

```

Bonus

In case there is future fraud on the other Lucky Duck games, create a shell script called roulette_dealer_finder_by_time_and_game.sh that has the three following arguments:

Specific time

Specific date

Casino game being played

**Notes: Since the new script would need to work with new schedules in the future, I've taken the grep command of the last script for the casino to find the the dealers that are working for a specific date and time with all of the schedule files. While trying to explore a possible "if" command to produce a specific dealer given a game, I've discovered the "case" script statement that would allow being able to output specific dealer names for the game given.*

With this I needed an input command to read data from the command script or, another way was to add the "read" command to take input from the user to choose a game. In this case, I gave the case 3 options for the 3 types of games, and thus titled the read info to the user the 3

different games they could choose from. The “-p” option for prompt would ask the user which game to look at. For the next section, I used the grep command from the last script and piped it together to the case statement to produce the output given the \$game selection input from “read.”

Each option had the command awk to print out just the columns of the information from the grepped dealer schedule. The times \$1 and \$2 remained in the same location, but the sections for the dealer names were in separated columns, so \$3 and \$4 were first names and last name for Blackjack, while \$5 and \$6 were the first name and last name for the Roulette Dealer.

The “echo” commands used were to space out the lines in the terminal so that they looked cleaner to read.

```

sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help
GNU nano 2.9.3 roulette dealer finder by time and game.sh Modified

# This is a script that can analyze the employee schedule to easily find the dealer at a specific time and date.
# Inputs: Specific Time, Specific Date, and Casino game being played.

#!/bin/bash

echo
echo
read -p "Enter Game Number (1-BlackJack, 2-Roulette, 3-Texas Hold Em): " game
echo
echo
grep -i "$2:00:00 $3" $1_Dealer_schedule |
case "$game" in
    "1") awk '{print " Time: " $1, $2 " Blackjack Dealer: " $3, $4}'
    ;;
    "2") awk '{print " Time: " $1, $2 " Roulette Dealer: " $5, $6}'
    ;;
    "3") awk '{print " Time: " $1, $2 " Texas Hold Em Dealer: " $7, $8}'
    ;;
esac
echo
  
```

Read 21 lines

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo M-A Mark Text
 ^X Exit ^R Read File ^\ Replace ^U Uncut Text ^I To Linter ^_ Go To Line M-E Redo M-C Copy Text

*Notes: Tested out the new script with the dates, times, and games and it works! See below screenshot.


```
cat $1_Dealer_schedule | awk -F " " '{print $1, $2, $5,$6}' | grep "$2"
```

```
sysadmin@ubuntuucb: ~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis
File Edit View Search Terminal Help

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ nano roulette_dealer_finder_by_time_and_game.sh
sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./roulette_dealer_finder_by_time_and_game.sh 0310 08 AM

Enter Game Number (1-BlackJack, 2-Roulette, 3-Texas Hold Em): 1

Time: 08:00:00 AM Blackjack Dealer: Rahima Figueroa

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./roulette_dealer_finder_by_time_and_game.sh 0310 08 AM

Enter Game Number (1-BlackJack, 2-Roulette, 3-Texas Hold Em): 2

Time: 08:00:00 AM Roulette Dealer: Billy Jones

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./roulette_dealer_finder_by_time_and_game.sh 0310 08 AM

Enter Game Number (1-BlackJack, 2-Roulette, 3-Texas Hold Em): 3

Time: 08:00:00 AM Texas Hold Em Dealer: Madina Britton

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$ ./roulette_dealer_finder_by_time_and_game.sh 0312 11 AM

Enter Game Number (1-BlackJack, 2-Roulette, 3-Texas Hold Em): 2

Time: 11:00:00 AM Roulette Dealer: Summer-Louise Hammond

sysadmin@ubuntuucb:~/Desktop/Lucky_Duck_Investigations/Roulette_Loss_Investigation/Dealer_Analysis$
```