**sys\_info.sh**

#!/bin/bash

mkdir ~/research 2>/dev/null

echo "A Quick System Audit Script" >~/research/sys\_info.txt

date >>~/research/sys\_info.txt

echo "" >>~/research/sys\_info.txt

echo "Machine Type Info:" >>~/research/sys\_info.txt

echo $MACHTYPE >>~/research/sys\_info.txt

echo -e "Uname info: $(uname -a) \n" >>~/research/sys\_info.txt

echo -e "IP Info: $(ip addr | grep inet | tail -2 | head -1) \n" >>~/research/sys\_info.txt

echo -e "Hostname: $(hostname -s) \n" >>~/research/sys\_info.txt

echo "DNS Servers: " >>~/research/sys\_info.txt

cat /etc/resolv.conf >>~/research/sys\_info.txt

echo -e "\nMemory Info:" >>~/research/sys\_info.txt

free >>~/research/sys\_info.txt

echo -e "\nCPU Info:" >>~/research/sys\_info.txt

lscpu | grep CPU >>~/research/sys\_info.txt

echo -e "\nDisk Usage:" >>~/research/sys\_info.txt

df -H | head -2 >>~/research/sys\_info.txt

echo -e "\nWho is logged in: \n $(who -a) \n" >>~/research/sys\_info.txt

echo -e "\nExec Files:" >>~/research/sys\_info.txt

find /home -type f -perm 777 >>~/research/sys\_info.txt

echo -e "\nTop 10 Processes" >>~/research/sys\_info.txt

ps aux -m | awk {'print $1, $2, $3, $4, $11'} | head >>~/research/sys\_info.txt

**ins\_for\_loops.sh**

#!/bin/bash

# for <item> in <list>

# do

# <run\_this\_command>

# <run\_this\_command>

# done

# list variables

months=(

'january'

'february'

'march'

'april'

'may'

'june'

'july'

'august'

'september'

'october'

'november'

'december'

)

days=('mon' 'tues' 'wed' 'thur' 'fri' 'sat' 'sun')

# create for loops

#print out months

for month in ${months[@]}

do

echo $month

done

#print out the days of the week

for day in ${days[@]}

do

if [ $day = 'sun' ] || [ $day = 'sat' ]

then

echo "It is the weekend! Take it easy."

else

echo "It is a weekday! Get to work!"

fi

done

# run a command on each file

for file in $(ls)

do

ls -lah $file

done

# dislay the number if it's a 1 or 4

for num in {0..5}

do

if [ $num = 1 ] || [ $num = 4 ]

echo $num

done

**for\_loops.sh**

#!/bin/bash

# Create Variables

nums=$(echo {0..9})

states=('Nebraska' 'California' 'Texas' 'Hawaii' 'Washington')

ls\_out=$(ls)

execs=$(find /home -type f -perm 777 2>/dev/null)

# Create For Loops

# Create a loop that prints only 3, 5 and 7

for num in ${nums[@]}; do

if [ $num = 3 ] || [ $num = 5 ] || [ $num = 7 ]; then

echo $num

fi

done

# Create a loop that looks for 'Hawaii'

for state in ${states[@]}; do

if [ $state == 'Hawaii' ]; then

echo "Hawaii is the best!"

else

echo "I'm not a fan of Hawaii."

fi

done

# Create a `for` loop that prints out each item in your variable that holds the output of the `ls` command.

for x in ${ls\_out[@]}; do

echo $x

done

# Bonus

# Create a for loop to print out execs on one line for each entry

for exec in ${execs[@]}; do

echo $exec

done

**useful\_loops.sh**

#!/bin/bash

# Define packages list

packages=(

'nano'

'wget'

'net-tools'

)

# loop though the list of packages and show if they are installed

for package in ${packages[@]};

do

if [ $(which $package) ]

then

echo "$package is installed at $(which $package)."

else

echo "$package is not installed."

fi

done

# Search each user's home directory for scripts and provide a formatted output.

for user in $(ls /home);

do

for item in $(find /home/$user -iname '\*.sh');

do

echo -e "Found a script in $user's home folder! \n$item"

done

done

# loop through scripts in the scripts folder and change the permissions to execute

for script in $(ls ~/scripts);

do

if [ ! -x ~/scripts/$script ]

then

chmod +x ~/scripts/$script

fi

done

# loop through a group of files and create a hash of each file.

# we assume files\_for\_hashing/ exists and contains at least one file

for file in $(ls ~/Documents/files\_for\_hashing/);

do

sha256sum $file

done

**sys\_info\_2.sh**

#!/bin/bash

#Check if script was run as root. Exit if false.

if [ $UID -ne 0 ]; then

echo "Please run this script as root."

exit

fi

# Define Variables

output=$HOME/research/sys\_info.txt

ip=$(ip addr | grep inet | tail -2 | head -1)

execs=$(sudo find /home -type f -perm 777 2>/dev/null)

cpu=$(lscpu | grep CPU)

disk=$(df -H | head -2)

# Define Lists to use later

commands=(

'date'

'uname -a'

'hostname -s'

)

files=(

'/etc/passwd'

'/etc/shadow'

)

#Check for research directory. Create it if needed.

if [ ! -d $HOME/research ]; then

mkdir $HOME/research

fi

# Check for output file. Clear it if needed.

if [ -f $output ]; then

>$output

fi

##################################################

#Start Script

echo "A Quick System Audit Script" >>$output

echo "" >>$output

for x in {0..2}; do

results=$(${commands[$x]})

echo "Results of "${commands[$x]}" command:" >>$output

echo $results >>$output

echo "" >>$output

done

# Display Machine type

echo "Machine Type Info:" >>$output

echo -e "$MACHTYPE \n" >>$output

# Display IP Address info

echo -e "IP Info:" >>$output

echo -e "$ip \n" >>$output

# Display Memory usage

echo -e "\nMemory Info:" >>$output

free >>$output

#Display CPU usage

echo -e "\nCPU Info:" >>$output

lscpu | grep CPU >>$output

# Display Disk usage

echo -e "\nDisk Usage:" >>$output

df -H | head -2 >>$output

#Display who is logged in

echo -e "\nCurrent user login information: \n $(who -a) \n" >>$output

# Display DNS Info

echo "DNS Servers: " >>$output

cat /etc/resolv.conf >>$output

# List exec files

echo -e "\nexec Files:" >>$output

for exec in $execs; do

echo $exec >>$output

done

# List top 10 processes

echo -e "\nTop 10 Processes" >>$output

ps aux --sort -%mem | awk {'print $1, $2, $3, $4, $11'} | head >>$output

# Check the permissions on files

echo -e "\nThe permissions for sensitive /etc files: \n" >>$output

for file in ${files[@]}; do

ls -l $file >>$output

done