1.

#!/bin/bash

find\_max\_length() {

max\_length=0

for file in $(find "$1" -type f 2>/dev/null); do

length=$(wc -c < "$file")

if [ "$length" -gt "$max\_length" ]; then

max\_length=$length

fi

done

echo $max\_length

}

if [ -z "$1" ]; then

echo "Usage: $0 <directory>"

exit 1

fi

if [ -d "$1" ]; then

echo "Searching in directory: $1"

find\_max\_length "$1"

else

echo "Please provide a valid directory."

Fi

2.

#!/bin/bash

if [ -z "$1" ]; then

echo "Usage: $0 path/to/create"

else

mkdir -p "$1"

fi

3.

#!/bin/bash

if [ $# -ne 2 ]; then

echo "Usage: $0 file1 file2"

exit 1

fi

perm1=$(stat -c %A "$1")

perm2=$(stat -c %A "$2")

if [ "$perm1" == "$perm2" ]; then

echo "Common permissions: $perm1"

else

echo "$1: $perm1"

echo "$2: $perm2"

fi

4.

#!/bin/bash

if [ $# -eq 0 ]; then

echo "No login names provided."

exit 1

fi

for username in "$@"; do

if id "$username" &>/dev/null; then

echo "$username: $(getent passwd "$username" | cut -d: -f6)"

else

echo "$username: No such user."

fi

done

5.

#!/bin/bash

trap '' 2 20

echo "Enter password to lock the terminal:"

read -s password1

echo "Confirm password:"

read -s password2

if [ "$password1" != "$password2" ]; then

echo "Passwords do not match. Exiting."

exit 1

fi

echo "Terminal locked. Enter password to unlock."

while :; do

echo "Password:"

read -s password

if [ "$password" == "$password1" ]; then

echo "Terminal unlocked."

break

else

echo "Incorrect password. Try again."

fi

done

6.

#!/bin/bash

echo "Enter the file name:"

read filename

if [ -e "$filename" ]; then

echo "File properties of $filename:"

stat "$filename"

else

echo "$filename does not exist."

Fi

7.

#!/bin/bash

if [ $# -eq 0 ]; then

echo "Usage: $0 file1 [file2 ...]"

exit 1

fi

for file in "$@"; do

if [ -e "$file" ]; then

tr '[:lower:]' '[:upper:]' < "$file" > "${file}.tmp"

mv "${file}.tmp" "$file"

else

echo "$file does not exist."

fi

done

8.

#!/bin/bash

if [ $# -eq 0 ]; then

echo "Usage: $0 filename [start\_directory]"

exit 1

fi

filename=$1

startdir=${2:-.}

find "$startdir" -type f -samefile "$filename"