**Lab03**

1. Write a script named Task1.sh which will create the following directory structure in the current directory:

./data/

./data/processed/

./docs/

########

mkdir ./data/

mkdir ./data/processes/

mkdir ./docs/

#exit 0

--------------------------------------------

2. Copy your script from Question 1, Task1.sh to Task2.sh and modify Task2.sh so that it checks if any of the directories already exist. If they do, it should exit with an error code and message.

########

if [ -e data ] || [ -e ./data/processed/ ] || [ -e ./docs ]; then

echo "Directory already present. Aborting!";

exit 4

fi

mkdir ./data/

mkdir ./data/processed/

mkdir ./docs/

exit 0

--------------------------------------------

3. Write a script (Task3.sh) which checks and reports if the current directory is the end of a branch (i.e. there are no directories inside the current directory).

########

for file in \*

do

if [ -d $file ]; then

echo "Directory is not end of branch!"

exit 2

fi

done

echo "Directory is end of branch!"

exit 0;

---------------------------------------------

4. Write a script (Task4.sh) which generates 100 random numbers and uses redirection to store them in a file called random.

Hint: You can generate random numbers using the $RANDOM variable and can specify a numeric range by using {1..10}. Use >> to append to a file.

########

#Example solution:

for i in {1..100}

do

echo $RANDOM >> random

done

exit 0

---------------------------------------------

5. Write a script (Task5.sh) which loops through its arguments and prints if they are a file, directory or do not exist.

########

#!/bin/bash

for file in $@

do

if [ ! -e $file ]; then

echo "File ${file} does not exist!"

elif [ -d $file ]; then

echo "File ${file} is a directory."

elif [ -f $file ]; then

echo "File ${file} is a regular file."

else

echo "File ${file} isn't a directory or file, but it does exist!"

fi

done

exit 0

---------------------------------------------

6. Write a script (Task6.sh)which checks for a .bak (backup) file for every .data file in the current directory (i.e. for every xxx.data file there should also be a xxx.data.bak file).

Your script should report if there is a missing .bak and create one. Run your script in the data directory to check it works.

########

#!/bin/bash

for file in \*.data

do

if [ ! -e ${file}.bak ]; then

echo "No backup for ${file}. Creating one..."

cp ${file} ${file}.bak

fi

done

exit 0

-----------------------------------------------

**Lab04**

1. Write a script (Task1.sh) which finds individual files in the current directory with a size of 0, ask for confirmation, and deletes them. Hint: The -s flag will test if a file is zero size in your conditional statement.

###########

#!/bin/bash

for file in \*

do

if ! [ -s $file ] ; then

echo "Would you like to delete ${file} ?"

read ans

if [ "$ans" == "yes" ] ; then

rm -f $file

fi

fi

done

exit 0

------------------------------------------------

2. Write a script (Task2.sh) which prints the word count, using the wc command, of each line in help-read.txt.

###########

#!/bin/bash

cat help-read.txt |while read line;

do

echo ${line} | wc -w

done

exit 0

------------------------------------------------

3. Write a function (Task3.sh) which takes a directory name as a parameter and:

a) Checks if the directory already exists

b) Create it if it does not exist

c) Moves into the directory

###########

#!/bin/bash

func() {

if ! [ -d $1 ] ; then

echo "Creating ${1}"

mkdir $1

else

echo "${1} already exists"

fi

cd $1

}

func ${1}

------------------------------------------------

4. Write a function (Task4.sh) which, for every file name passed as a parameter, prints if it is a file, directory or does not exist. Hint: You should be able to reuse the script you wrote in Lab3, task 5 for much of this script.

###########

#!/bin/bash

function type() {

if [ ! -e ${1} ]; then

echo "File ${1} does not exist!"

elif [ -d ${1} ]; then

echo "File ${1} is a directory."

elif [ -r ${1} ]; then

echo "File ${1} is a regular file."

else

echo "File ${1} isn't a directory or file, but it does exist!"

fi

}

type Task3.sh