HW 4

Task 1

#!/bin/bash

# Irina Golovko

# Hw# 4 task 1

# check it’s a file or directory, if a file – write a filename

# to files.txt, if a directory – to dirs.txt

function traverse() {

for file in $(ls "$1")

do

#current=${1}{$file}

if [[ ! -d ${1}/${file} ]]; then

echo " ${1}/${file} is a file and will be save to files.list"

echo ${1}/${file} >>files.list

elif [[ -d ${1}/${file} ]]; then

echo "${1}/${file} is a subdirectory and will be save to dirs.list"

echo ${1}/${file} >>dirs.list

else

#echo "entering recursion with: ${1}${file}"

traverse "${1}/${file}"

fi

done

}

echo -n "Please Enter a file name or directory name: >"

read filename

if [ -f $filename ]; then

echo "$filename will be saved to files.txt."

echo $filename 1>>files.txt

elif [ -d $filename ]; then

echo "$filename will be saved to dirs.txt. "

echo $filename 1>>dirs.txt

else

echo "Bad file" >&2

fi

for arg in "$@"; do

shift

case "$arg" in

"--files-list") set -- "$@" "-f" ;;

"-d") set -- "$@" "-d" ;;

\*) set -- "$@" "$arg"

esac

done

# Parse short options

OPTIND=1

while getopts "fd" opt

do

case "$opt" in

"f")

echo "We change name of file.txt to files.list because of option --files-list"

mv files.txt files.list >&2;

;;

"d")

echo "Now we change name of dirs.txt to dirs.list because of option -d"

mv dirs.txt dirs.list >&2;

;;

esac

done

traverse $dir

shift $(expr $OPTIND - 1) # remove options from positional parameters

function main() {

traverse "$1"

}

main "$1"

**Outputs:**

irinas-MacBook-Pro:lab irinagolovko$ ls -ls dir1 dir2

dir1:

total 8

0 drwxr-xr-x 6 irinagolovko staff 204 Apr 27 08:58 dir1a

8 -rw-r--r-- 1 irinagolovko staff 19 Apr 27 08:58 file1

0 -rw-r--r-- 1 irinagolovko staff 0 Apr 27 08:58 file2

dir2:

total 8

8 -rw-r--r-- 1 irinagolovko staff 6 Apr 27 09:14 23

0 drwxr-xr-x 3 irinagolovko staff 102 Apr 27 08:58 dir2a

irinas-MacBook-Pro:dir2a irinagolovko$ ls

dir2a1

irinas-MacBook-Pro:dir1a irinagolovko$ ls

dir1a1 dir1a2 file1 file2

**without parameters:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_1.sh

Please Enter a file name or directory name: >dir2

dir2 will be saved to dirs.txt.

ls: fts\_open: No such file or directory

ls: fts\_open: No such file or directory

irinas-MacBook-Pro:lab irinagolovko$

**with parameters:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_1.sh dir1/dir1a

Please Enter a file name or directory name: >dir1/dir1a

dir1/dir1a will be saved to dirs.txt.

ls: fts\_open: No such file or directory

dir1/dir1a/dir1a1 is a subdirectory and will be save to dirs.list

dir1/dir1a/dir1a2 is a subdirectory and will be save to dirs.list

dir1/dir1a/file1 is a file and will be save to files.list

dir1/dir1a/file2 is a file and will be save to files.list

**with option –d:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_1.sh -d

Please Enter a file name or directory name: >dir2

dir2 will be saved to dirs.txt.

Now we change name of dirs.txt to dirs.list because of option -d

ls: fts\_open: No such file or directory

ls: fts\_open: No such file or directory

irinas-MacBook-Pro:lab irinagolovko$

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_1.sh -d dirs.list

Please Enter a file name or directory name: >101

101 will be saved to files.txt.

Now we change name of dirs.txt to dirs.list because of option -d

mv: dirs.txt: No such file or directory

ls: fts\_open: No such file or directory

dirs.list/dirs.list is a file and will be save to files.list

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_1.sh -d dir2

Please Enter a file name or directory name: >dir1

dir1 will be saved to dirs.txt.

Now we change name of dirs.txt to dirs.list because of option -d

ls: fts\_open: No such file or directory

dir2/23 is a file and will be save to files.list

dir2/dir2a is a subdirectory and will be save to dirs.list

irinas-MacBook-Pro:lab irinagolovko$

**with options files-list:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_1.sh --files-list

Please Enter a file name or directory name: >dir1

dir1 will be saved to dirs.txt.

We change name of file.txt to files.list because of option --files-list

ls: fts\_open: No such file or directory

ls: fts\_open: No such file or directory

irinas-MacBook-Pro:lab irinagolovko$

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_1.sh --files-list dir2

Please Enter a file name or directory name: >dir2

dir2 will be saved to dirs.txt.

We change name of file.txt to files.list because of option --files-list

mv: files.txt: No such file or directory

ls: fts\_open: No such file or directory

dir2/23 is a file and will be save to files.list

dir2/dir2a is a subdirectory and will be save to dirs.list

irinas-MacBook-Pro:lab irinagolovko$

**TASK 2**

#!/bin/bash

# Irina Golovko

# Hw# 4 task 2

# read files from files.txt and read directories from dirs.txt

#$1="dirs.txt"

#$2="files.txt"

if [ "$#" -eq 2 ]; then

for WORD in `cat $1`

do

echo "Directory is $WORD"

done

for WORD in `cat $2`

do

echo "File is $WORD"

size=`(stat -f%z $WORD)`

echo "Size is $size"

done

fi

# assume that we have only 1 parameter and it contains name of files.

# we need to read name of directories from name of files.

if [ "$#" -eq 1 ]; then

if [ -f "$1" ]; then

for WORD in `cat $1`

do

DIR=$(dirname "${WORD}")

echo "File is $WORD"

echo "Directory is"

echo "${DIR}"

done

elif [ -d "$1" ]; then

echo "File and subdirectories in the directory $1"

for filename in `ls -la $1`; do

if [ -d ${1}/${filename} ]; then

echo "${1}/${filename} is a subdirectory"

elif [ -f ${1}/${filename} ]; then

echo "${1}/${filename} is a file"

fi

done

fi

fi

**Outputs:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_2.sh dirs.txt files.txt

Directory is dir1

Directory is dir2

Directory is dir1/dir1a

File is dir1/file1

Size is 19

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_2.sh files.list

File is dir2/23

Directory is dir2

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_2.sh dir1

File and subdirectories in the directory dir1

dir1/. is a subdirectory

dir1/.. is a subdirectory

dir1/dir1a is a subdirectory

dir1/file1 is a file

dir1/file2 is a file

**TASK 3**

#!/bin/bash

# Irina Golovko

# Hw# 4 task 3

# This script will run both of previous scripts. It will take zero or 1 parameters.

# It produce an error message and exit if there are more than 1 parameter given.

#The optional parameter will be a directory path. If none is given, use the current directory ".".

# run scripts with optional parameter given by user

if [ "$#" -eq 1 ]; then

echo "Executions of script Hw4\_1.sh with given argument $1"

source Hw4\_1.sh $1

echo "Executions of script Hw4\_2.sh with given argument $1"

source Hw4\_2.sh $1

exit 0

fi

# run script without given parametrs by default - current directory

if [ "$#" -eq 0 ]; then

./Hw4\_1.sh $PWD

echo "Executions of script Hw4\_1.sh without given argument"

echo "Argument by default is current directory $PWD"

./Hw4\_2.sh $PWD

echo "Executions of script Hw4\_2.sh without given argument"

echo "Argument by default is current directory $PWD"

exit 0

fi

if [ “$#” –gt 1 ]; then

echo "Error: More than one parameter given"

exit 1;

fi

**Outputs:**

**With 1 given argument:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_3.sh dir1

Executions of script Hw4\_1.sh with given argument dir1

Please Enter a file name or directory name: >dir2

dir2 will be saved to dirs.txt.

ls: fts\_open: No such file or directory

dir1/dir1a is a subdirectory and will be save to dirs.list

dir1/file1 is a file and will be save to files.list

dir1/file2 is a file and will be save to files.list

Executions of script Hw4\_2.sh with given argument dir1

File and subdirectories in the directory dir1

dir1/. is a subdirectory

dir1/.. is a subdirectory

dir1/dir1a is a subdirectory

dir1/file1 is a file

dir1/file2 is a file

**without given argument:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_3.sh

Executions of script Hw4\_1.sh without given argument

Argument by default is current directory /Users/irinagolovko/Documents/Unix/ShellScript/HW/lab

Please Enter a file name or directory name: >dir2

dir2 will be saved to dirs.txt.

ls: fts\_open: No such file or directory

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/Hw4\_1.sh is a file and will be save to files.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/Hw4\_2.sh is a file and will be save to files.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/Hw4\_3.sh is a file and will be save to files.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dir1 is a subdirectory and will be save to dirs.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dir2 is a subdirectory and will be save to dirs.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dirs.list is a file and will be save to files.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dirs.txt is a file and will be save to files.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/files.list is a file and will be save to files.list

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/files.txt is a file and will be save to files.list

Executions of script Hw4\_2.sh without given argument

Argument by default is current directory /Users/irinagolovko/Documents/Unix/ShellScript/HW/lab

File and subdirectories in the directory /Users/irinagolovko/Documents/Unix/ShellScript/HW/lab

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/. is a subdirectory

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/.. is a subdirectory

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/Hw4\_1.sh is a file

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/Hw4\_2.sh is a file

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/Hw4\_3.sh is a file

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dir1 is a subdirectory

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dir2 is a subdirectory

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dirs.list is a file

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/dirs.txt is a file

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/files.list is a file

/Users/irinagolovko/Documents/Unix/ShellScript/HW/lab/files.txt is a file

**with more than 1 given argument:**

irinas-MacBook-Pro:lab irinagolovko$ ./Hw4\_3.sh dir1 dir2

Error: More than one parameter given