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OS assignment 1
3rd year 1st Semester

Q4) Write a shell script that counts the number of ordinary files (not directories) in the current working directory and its sub-directories.
Ans.

Following is the script *q4.sh*

```
countFiles(){
    local count=0
    # echo arg:$1 >&2
    for fldir in $(ls $1)
    do
        local fldr="$1/$fldir"
        # echo lsopt:$fldr >&2
        if [ -d $fldr ];
        then
            local c=$(countFiles $fldr)
            # echo c:$c >&2
            ((count+=c))
        else
            ((count+=1))
        fi
    done
    echo $count
}

echo $(pwd)
fcount=$(countFiles $(pwd))

echo $fcount
```

Input and output are as given in following screenshot. First command (ls -R) shows all the directories and the files. Next command executes above code and shows the output that is 60 here.

```
(base) zulfiqar@zulqarnain:~/assignmentGit/thirdYear(master)$ls -R
.:
computerNetworks  OS

./computerNetworks:
assignment1  assignment2  Report_guidelines.pdf

./computerNetworks/assignment1:
Assignment#1_CO1_ErrorDetection.pdf  CN-assignment1.jpg  header  line-graph.png
assignment1_report.pdf               filestructre.jpg    lib     test

./computerNetworks/assignment1/header:
errorDetection.hpp  injecterror.hpp

./computerNetworks/assignment1/lib:
client                  detailed_report.txt  log_report.txt          server.cpp
client.cpp              errorInjector.cpp    random_binary_stings.txt
detailed_report.tar.xz  log_report.tar.xz    server

./computerNetworks/assignment1/test:
randomDataGenerator.cpp  unitTesting.cpp

./computerNetworks/assignment2:
Assignment#2_CO2_FlowControl.pdf  CN_assignment2.jpg  CN_assignment2.pdf  header  lib

./computerNetworks/assignment2/header:
error_delay.hpp  errorDetection.hpp  flowcontrol.hpp  networknode.hpp

./computerNetworks/assignment2/lib:
channel          GBN_sender          sendData5.png   SRS_sender      sw_sender
gbnoutput.jpg    GBN_sender.cpp      srsoutput2.jpg  SRS_sender.cpp  SW_sender.cpp
gbn_reciever     PlatformChannel.cpp srsoutput.jpg   swoutput.jpg
GBN_reciever     sendData1.jpg       srs_reciever    sw_reciever
GBN_reciever.cpp sendData2.jpg       SRS_reciever.cpp SW_reciever
gbn_sender       sendData3.jpg       srs_sender      SW_reciever.cpp

./OS:
assignment1

./OS/assignment1:
BCSE-OS-assignments-I-2021.pdf  q1.sh  q2.sh  q3.sh  q4.sh  q6.sh  sample.txt
(base) zulfiqar@zulqarnain:~/assignmentGit/thirdYear(master)$./OS/assignment1/q4.sh
/home/zulfiqar/assignmentGit/thirdYear
60
(base) zulfiqar@zulqarnain:~/assignmentGit/thirdYear(master)$
```