# 1)

## a)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/raw

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/raw/2023\_p1

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/raw/2023\_p2

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/raw/2023\_p3

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/coadds

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/coadds/field001

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/coadds/field002

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/catalogs

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/catalogs/aliens

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/catalogs/UFOs

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/catalogs/UFOs/alien01

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % rmdir DR3/catalogs/UFOs/alien01

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/catalogs/aliens/alien01

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/catalogs/aliens/alien02

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mkdir DR3/catalogs/aliens/alien03

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % ls -R DR3

catalogs coadds raw

DR3/catalogs:

UFOs aliens

DR3/catalogs/UFOs:

DR3/catalogs/aliens:

alien01 alien02 alien03

DR3/catalogs/aliens/alien01:

DR3/catalogs/aliens/alien02:

DR3/catalogs/aliens/alien03:

DR3/coadds:

field001 field002

DR3/coadds/field001:

DR3/coadds/field002:

DR3/raw:

2023\_p1 2023\_p2 2023\_p3

DR3/raw/2023\_p1:

DR3/raw/2023\_p2:

DR3/raw/2023\_p3:

## b)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % nano

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % ls DR3

catalogs coadds raw

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % mv README DR3

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % ls DR3

README catalogs coadds raw

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % cat DR3/README

This directory contains the third data release of the Fictional Imaging

Sky Survey (FISS). The data release includes directories for raw images,

coadded images, and catalogs.

## c)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % man cp

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % cp DR3/README DR3/raw

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % cp DR3/README DR3/coadds

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % cp DR3/README DR3/catalogs

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % ls -R DR3

README catalogs coadds raw

DR3/catalogs:

README UFOs aliens

DR3/catalogs/UFOs:

DR3/catalogs/aliens:

alien01 alien02 alien03

DR3/catalogs/aliens/alien01:

DR3/catalogs/aliens/alien02:

DR3/catalogs/aliens/alien03:

DR3/coadds:

README field001 field002

DR3/coadds/field001:

DR3/coadds/field002:

DR3/raw:

2023\_p1 2023\_p2 2023\_p3 README

DR3/raw/2023\_p1:

DR3/raw/2023\_p2:

DR3/raw/2023\_p3:

## d)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % rm -r DR3

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % ls DR3

ls: DR3: No such file or directory

# 2)

## a)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % cd /usr/bin

(base) ryansponzilli@wirelessprv-10-194-0-177 bin % ls \*q\*

atq lpq lwp-request5.34 quota spfquery5.34

csreq lskq mailq seq sqlite3

derq lwp-request mcxquery spfquery uniq

dispqlen.d lwp-request5.30 qlmanage spfquery5.30

## b)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % cd /etc

(base) ryansponzilli@wirelessprv-10-194-0-177 /etc % ls [dhr]\*.conf

resolv.conf rtadvd.conf

# 3)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % curl https://www.gutenberg.org/cache/epub/33504/pg33504.txt > opticks.txt

% Total % Received % Xferd Average Speed Time Time Time Current

Dload Upload Total Spent Left Speed

100 582k 100 582k 0 0 964k 0 --:--:-- --:--:-- --:--:-- 964k

## a)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % grep -n -i "refrangibility" opticks.txt

186:\_Refrangibility of the Rays of Light, is their Disposition to be

188:Body or Medium into another. And a greater or less Refrangibility of

242:respects, but because the Rays which agree in Refrangibility, agree at

579:Refrangibility.\_

843:Refrangibility. The length of the Image in the foregoing Experiments, I

971:which, being according to their degrees of Refrangibility placed in

1034:same Circle, as to their degree of Refrangibility, continue always

1036:do differ in degree of Refrangibility, and that in some certain and

1203:and \_t\_, do differ in degrees of Refrangibility.

1363:in order, according to their degrees of Refrangibility. The Light

1461:Experiments. And seeing the Rays which differ in Refrangibility may be

1692:different Refrangibility of several sorts of Rays.\_

1752:of Refrangibility, is sufficiently manifest out of what has been said.

1756:any mean Degree of Refrangibility, as is manifest by the fifth, sixth,

1770:understanding the different Refrangibility of several Rays, conceived

1774:that the Rays which have a mean Degree of Refrangibility, that is, those

1784:of Refrangibility, and this Sine is in a given Proportion to the equal

1901:\_The Perfection of Telescopes is impeded by the different Refrangibility

2191:Refrangibility do not converge to the same Focus; but if they flow from

2224:through which these Rays are scattered by unequal Refrangibility, will

2228:Refrangibility of the Rays, as 961/72000000 to 4/55, that is as 1 to

2234:But you will say, if the Errors caused by the different Refrangibility

2329:Glass. For were it not for the different Refrangibility of the Rays, its

2334:Errors arising from the different Refrangibility of the Rays as

2337:the different Refrangibility of the Rays which hinders the perfection of

2341:Refrangibility of Rays, is the true cause of the imperfection of

2348:Errors of the Rays arising from the different Refrangibility, are as the

2359:Now were it not for this different Refrangibility of Rays, Telescopes

2375:Refrangibility of several sorts of Rays. But by reason of this different

2376:Refrangibility, I do not yet see any other means of improving Telescopes

2740:Experiments, that when the Rays which differ in Refrangibility are

2752:Refrangibility, and that Colour cannot be changed by Reflexions and

2763:of Colours, as there were sorts of Rays differing in Refrangibility.

2836:\_To define the Refrangibility of the several sorts of homogeneal Light

2999:homogeneal as to Refrangibility, and that of the other is heterogeneal,

3318:Degrees of Refrangibility, and come from the superior Prism be extended

3544:homogeneal Rays do constantly answer to their degrees of Refrangibility,

3546:of Refrangibility cannot be changed by Refractions and Reflexions

3621:adequately fall will by reason of the different Refrangibility of those

3820:the Rays which differ in Refrangibility will have different Limits of

3822:different Degrees of Refrangibility emerge most copiously in different

3853:Argument, the Rays which have intermediate Degrees of Refrangibility

3856:of Refrangibility require, that is in the Progress from E to F, or from

3875:Refrangibility require, that is, in the Progress from G to H, or from

4024:degrees of Refrangibility. For thence it's certain, that some Bodies

5346:according to their degrees of Refrangibility: By which means the Colours

5440:Refrangibility; whereby those of each order, which at the reflexion from

5456:and constant degree of Refrangibility connate with it, according to

5460:And what is said of their Refrangibility may be also understood of their

5480:constant relation between Colours and Refrangibility; the most

5483:Refrangibility. And by the 13th, 14th, and 15th Observations, compared

5493:their different Refrangibility or Reflexibility. And in this respect the

7686:Hair. And other Rays of intermediate degrees of Refrangibility were

7717:\_Qu.\_ 2. Do not the Rays which differ in Refrangibility differ also in

8518:Refrangibility, than that the Rays of Light be Bodies of different

9293:respect of Refrangibility, Reflexibility, and Colour, and their

## b)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % grep -A 2 "AX" opticks.txt

\_AXIOMS.\_

AX. I.

\_The Angles of Reflexion and Refraction, lie in one and the same Plane

--

AX. II.

\_The Angle of Reflexion is equal to the Angle of Incidence.\_

--

AX. III.

\_If the refracted Ray be returned directly back to the Point of

--

AX. IV.

\_Refraction out of the rarer Medium into the denser, is made towards the

--

AX. V.

\_The Sine of Incidence is either accurately or very nearly in a given

--

AX. VI.

\_Homogeneal Rays which flow from several Points of any Object, and fall

--

AX. VII.

\_Wherever the Rays which come from all the Points of any Object meet

--

AX. VIII.

\_An Object seen by Reflexion or Refraction, appears in that place from

--

AX and NF, let fall the Perpendiculars CD and CE, and produce CD till it

fall upon the Circumference at L. Parallel to the incident Ray AN draw

the Diameter BQ, and let the Sine of Incidence out of Air into Water be

--

Arch QF will first increase and then decrease, and so will the Angle AXR

which the Rays AN and GR contain; and the Arch QF and Angle AXR will be

biggest when ND is to CN as sqrt(II - RR) to sqrt(3)RR, in which

case NE will be to ND as 2R to I. Also the Angle AYS, which the Rays AN

--

are 108 and 81, and thence by Computation the greatest Angle AXR will be

found 42 Degrees and 2 Minutes, and the least Angle AYS, 50 Degrees and

57 Minutes. And in the most refrangible Rays the Sines I and R are 109

and 81, and thence by Computation the greatest Angle AXR will be found

40 Degrees and 17 Minutes, and the least Angle AYS 54 Degrees and 7

Minutes.

## c)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % grep -v -i -n "light" opticks.txt | grep -i "heterogeneal"

240:than others, I call Compound, Heterogeneal and Dissimilar.\_ The former

2999:homogeneal as to Refrangibility, and that of the other is heterogeneal,

8785:that Heat congregates homogeneal Bodies, and separates heterogeneal

## d)

(base) ryansponzilli@wirelessprv-10-194-0-177 ~ % grep "Eye" opticks.txt | wc -l

161

# 4)

## a)

Run the command grep as superuser, search through all text files in \var\log\syslog for “DHCPREQUEST”, and output the result in the file dhcp req.‘date +%Y%m%d‘, where the pattern in quotes represents the current date.

## b)

Display free disk space in human readable format, and pipe the output into grep, which is searching for “G”.

## c)

Run the executable “myjob” passing arguments -a and -j with 1 and 3 respectively, and input “inlist” through standard input, and append the standard output to “result”.

## d)

Get the last 3 lines of “lumdata.out”, then take the first line of those 3 lines, and then extract characters 10-20 of that line and output them to “result”.