**1.**

How many lines does the file contain

cd Documents

cd PCB

grep –c $ HapMap.fas.txt (gives 378,672 lines)

How many characters

wc HapMap.fas.txt (gives 15,503,584 characters)

What is the first line of this file

head –n 1 HapMap.fas.txt (first line is >TP1\_query\_64)

What are the last 3 lines

tail –n 3 HapMap.fas.txt

How many sequences are in the file

grep –c “>” HapMap.fas.txt (gives 189,336 sequences)

**2.**

Print all lines that contain phone number with phone extension

cd Documents

cd PCB

grep –i “X[0-9]” grep\_data.txt > phone\_extensions.txt

Print all lines that begin with three digits followed by a blank

grep –iE ‘^[0-9]{3} .\*$’ grep\_data.txt > threedigits.txt

Print all lines that contain a vowel…

grep –iE ‘(a|e|i|o|u).\1’ grep.data.txt > vowel.txt

Print all lines that do no begin with capital S

grep –v “^S” grep\_data.txt > noletterS.txt

Print all lines that contain CA

grep –i “ca” grep\_data.txt > CA.txt

Print all lines that contain an email address

grep –i “.@” grep\_data.txt > email.txt

Print all lines that do not contain September

grep –v “Sep.” grep\_data.txt > september.txt

Print all lines that contain word de as a whole word\*\*\*\*

grep –i “\<de\>” grep\_data.txt > de.txt