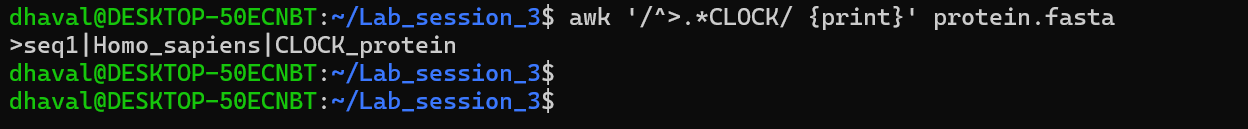
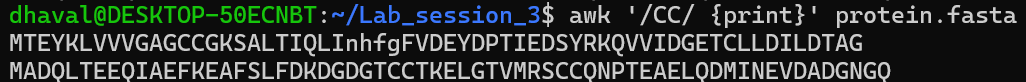
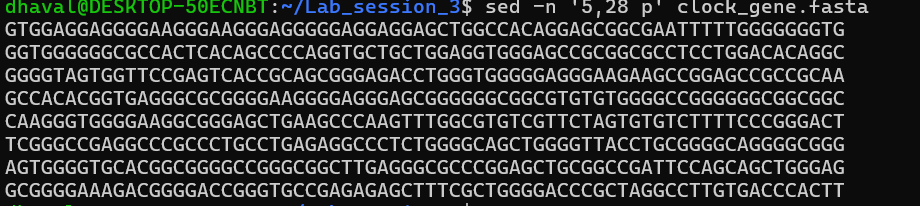
**Lab\_Assignment\_3**

**1.  
A screenshot of a computer program

AI-generated content may be incorrect.**

**2.** **A computer screen with white text

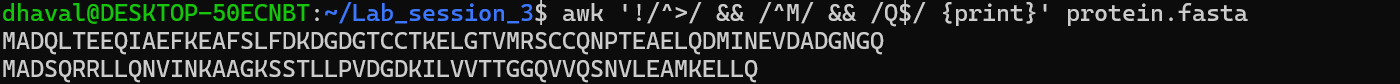
AI-generated content may be incorrect.**  
  
3.   
  
4.  
****  
  
5.  
****

6.  
****  
Note: For this I ask help from chat gpt for syntax writing   
Given prompt-how to write syntax in awk for finding number of single character in whole file  
Ans- awk '{count += gsub(/A/, "A")} END {print count}' filename  
  
7. 

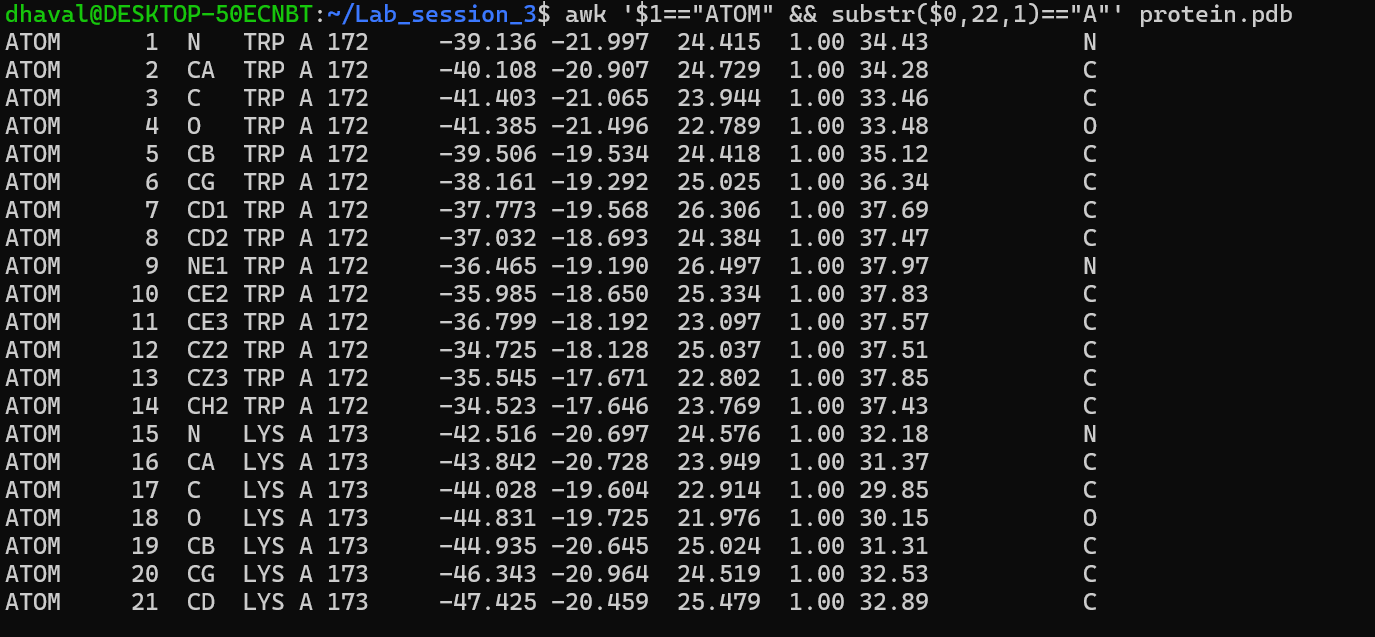
8.  
A screen shot of a computer

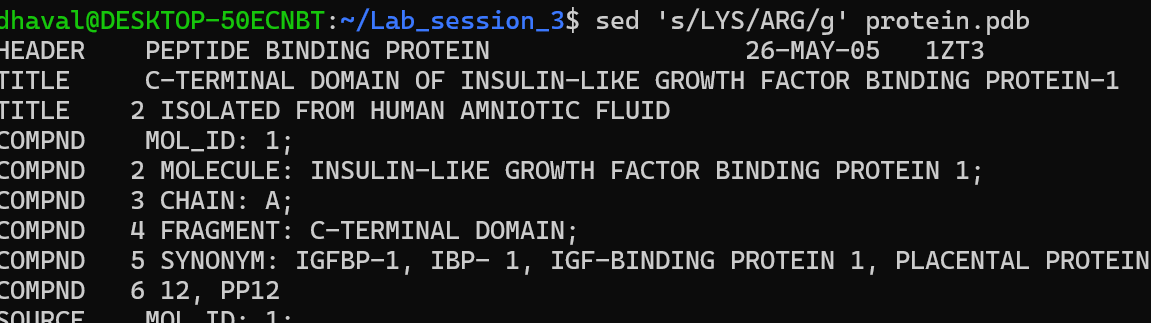
AI-generated content may be incorrect.

Chat gpt promot- awk -F" " '/^>/ {print substr($1,2)}' file name

9.  
  
  
**10.  
A computer screen with white text

AI-generated content may be incorrect.  
  
11.**

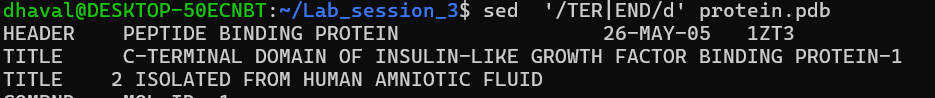
**  
  
  
  
12.  
A screen shot of a computer screen

AI-generated content may be incorrect.**I took help from **ChatGPT** to understand how to write code using substr and **field** $n in awk.  
  
13.   
  
  
14. A computer screen shot of a black screen

AI-generated content may be incorrect.  
  
15.  
  
  
16. A screen shot of a computer screen

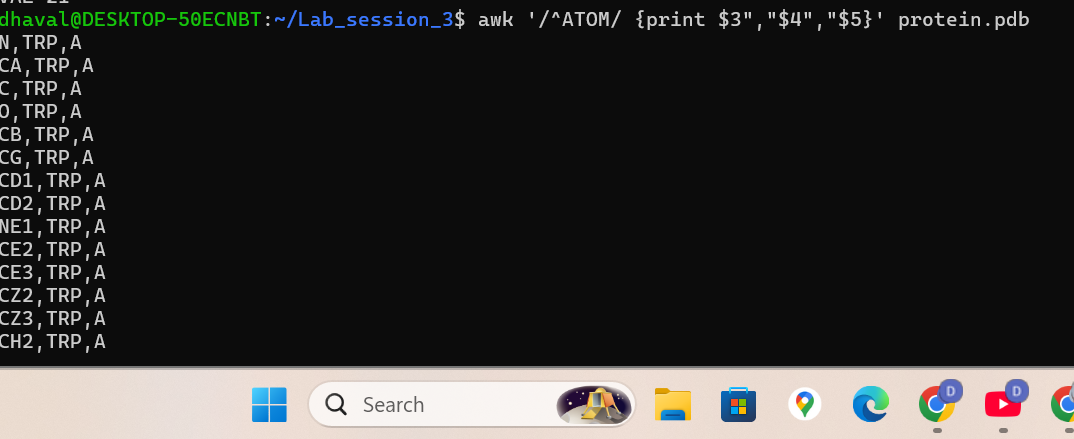
AI-generated content may be incorrect.  
  
17.   
  
18. A screenshot of a computer screen

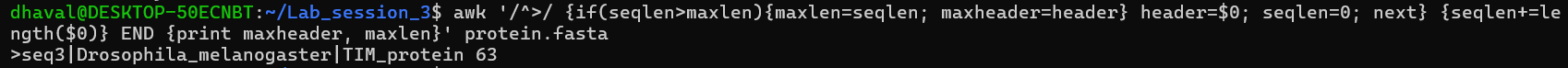
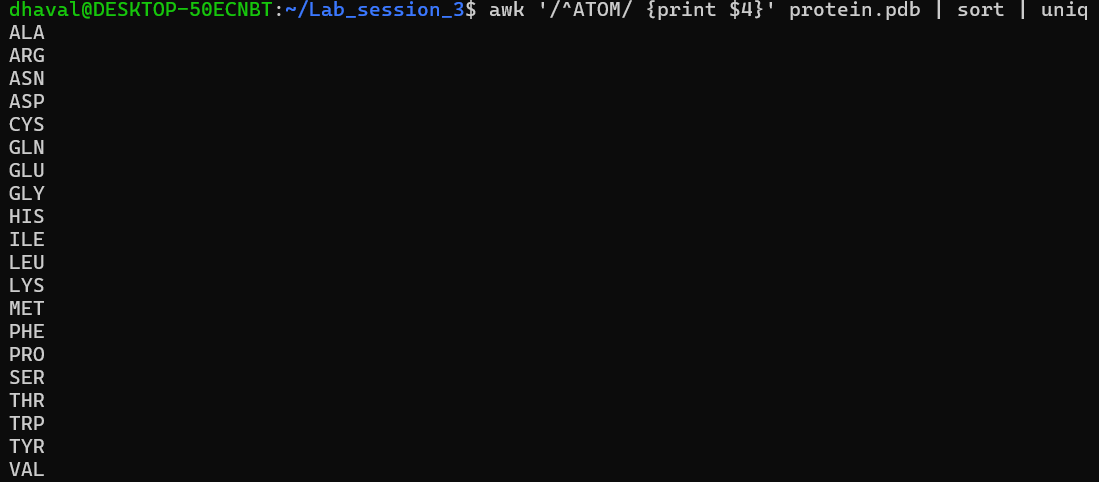
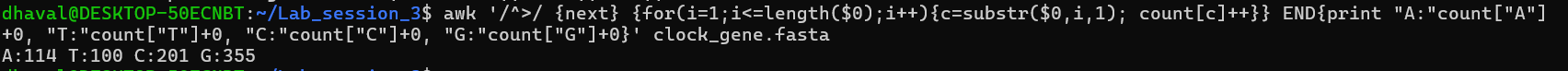
AI-generated content may be incorrect.  
  
19. A black screen with white text

AI-generated content may be incorrect.  
  
20.   
  
21. A screen shot of a computer

AI-generated content may be incorrect.  
  
22.  
A black screen with white text

AI-generated content may be incorrect.  
I took help from Perplexity AI to understand how to find the frequency of each residue (molecule) in a PDB file.

awk '$1 == "ATOM" && $5 == "A" {residues[$4]++} END {for (res in residues) print res, residues[res]}' filename  
  
23.  
  
  
24. A screenshot of a computer program

AI-generated content may be incorrect.  
  
25.   
  
  
  
  
26.   
  
27.   
  
28.  
  
  
Note: I used Perplexity AI to assist with understanding questions 26 and 28, and for guidance on interpreting PDB data. In question 28, I did not fully understand the solution.