

Introduction of computer usage in biological research - Practice

David Fazekas

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Solve the below tasks in the Terminal using commandline. Copy the actual commands below each point from the Terminal:

1. Download the sequence file of the 21st Human chromosome from here: `ftp://ftp.ncbi.nlm.nih.gov/genomes/Homo_sapiens/CHR_21/hs_alt_CHM1_1.1_chr21.fa.gz`
2. Unzip it Use: `unzip`
3. Rename the extracted file to `human_21.fasta` Use: `mv`
4. Open it with `less`
5. Count the number of its lines in this file Use: `wc -l`
6. Write its first 125 lines to a file Use: `head -n 125 >`
7. Write its last 42 lines to a file Use: `tail -n 42 >`
8. Count the occurrence of telomer sequences (TTAGGG) in its first 125 lines Use: `grep -o "TTAGGG"`
9. Write a shell script that downloads, unzips, renames the sequence file of the 21st chromosome and counts the telomers in the first 125 lines