Tutorials 3: Linux working with files

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1. Open Terminal. Move to directory "Tutorials". If it does not exists, create it first.
2. Use command `nano` to create a file "year.txt" in which you should write the names of the months.
3. Use command `cat` to view the content of the created file.
4. View the contents also with commands `more` and `less`.
5. Use commands `head` and `tail` for the file "year.txt". How do they work?
6. Figure out how to display only the first six months and only the last sixt months of the year.
7. Use command `wc` on the file "year.txt". Which data is displayed?
8. Figure out how to use `wc` command to display only the number of lines of the file "year.txt".
9. Can we figure out the number of lines of a file also with any other command?
10. Change the file "year.txt" so that after each month there is an empty line.
11. First, display the contents of the file to the screen with command `cat`. Then do the same, once with the option -n and once with the option -b. Compare the displayed contents and figure out how the command works with the extra options.
12. Change the file "year.txt" back to its original state.
13. Create a new file "numbers.txt" and write to it the numbers 12, 3, 25, 2, and 11, each in its separate row.
14. Use command `sort` on the file "numbers.txt". Then try using the command with the options -n and -r separately. Figure out how the displayed content differs.
15. How can we obtain the numbers sorted in the order from largest to smallest?
16. Create the file "exams.txt" with data in three columns separated with a single space as follows: name course grade. Write to it the following lines:
    - Ana mathematics 8
    - Marko mathematics 10
    - Ana programming 8
    - Luka mathematics 7
    - Marko programming 9
    - Luka programming 10

17. Use the command `sort` and sort data based by the course. You will have to use the option -k.

18. Now sort the data so that it is first sorted by the course and then by the grades.

19. Create the file "fruit.txt" and write to it the following lines: apple, apple, banana, strawberry, banana, banana, banana, strawberry.

20. First, display the contents of the file. Then, use the command `uniq` and compare the result with the displayed contents of the file.

21. Try using the same command with the option -c. What do the numbers at the start of each line represent?

22. Use the command `cut` to display only the first character of each line from the file "exams.txt". You have to use the option -c.

23. Use the command `cut` to now display only the second column of the file. You have to use the option -f.

24. Figure out how to display only the first and third column at the same time.

25. How could we display only the second and third column from a file where data is separated with a single comma?

26. Use the command `cut` and operator > to redirect results in order to create three files "names.txt", "courses.txt", and "grades.txt". Each file should contain a single column from the file "exams.txt".

27. Use the command `paste` to again join the data from the three created files and save the result in a file "exams2.txt". Make sure that the columns are separated only by a single comma (,) and that data is writen in the following order: course,name,grade.

28. Use the command `grep` to search the lines containing the course "mathematics" in the file "exams.txt". What does the command display?

29. The operator | can send the result of one command directly to another command without the need to save the intermediate result in a file. How can we use this operator to display only the summer months (june, july, august) from the original file "year.txt".

30. How can we use the operator | to figure out the number of occurences of each type of fruit in the file "fruit.txt"? The result should contain a single line for each type of fruit and the number of their occurences. Save the result to a new file.