

Unit 1 Exercises Laboratory (U1 EL)

The purpose of the task is to define the `Date` class describing the date, where the fields are day, month, year and format (determines how the date is displayed).

You get the `main.cpp` file ready. The task is divided into 6 parts. Implement each part according to the description and example usage in `main()`. The `main()` function is prepared to test all implemented functionalities. Please uncomment each part to test your implementation. Complete the task in stages (parts).

Part 1

The **format** field determines how the date is displayed.

If the format is true, we display: 23. 4.2021

If the format is false, we display: Apr 23, 2021

The **SetFormat** method allows you to change the format field settings. When entering a date from the keyboard, only valid dates are accepted, where $2001 \leq \text{year} \leq 2100$, $1 \leq \text{month} \leq 12$ and the day is consistent with the given month (taking into account leap years - define **ifLeap**)

Part 2

The **NextDay** method updates the date to the next date the next day.

Part 3

The **PrevDay** method updates the date to the previous day's date.

Part 4

The **SelectedDay** method has a parameter (7 by default) specifying the date to be set. For example, value 14 is 14 days later, and -14 is 14 days ago.

Part 5

ifEqual checks whether the given dates are the same.

Part 6

The external **CountDays** function finds the number of days between the given dates.

Example output:

----- Part 1 -----

d1= 5. 3.2021

d2= 7. 3.2021

d3= 2.Aug.2021

d4=30.Dec.2021

Enter date: (2001<=year<=2100)

Enter year: 2021

Enter month: 3

Enter day: 9

d1= 9. 3.2021

----- Part 2 -----

d4=10. 3.2021

d4=11. 3.2021

d4=12. 3.2021

d4=13. 3.2021

d4=14. 3.2021

d4=15. 3.2021

----- Part 3 -----

d4=14. 3.2021

d4=13. 3.2021

d4=12. 3.2021

d4=11. 3.2021

d4=10. 3.2021

d4= 9. 3.2021

----- Part 4 -----

in a week it will be d5=16. 3.2021

and in 2 weeks it will be d5=30. 3.2021

and 3 weeks ago it was d5= 9. 3.2021

----- Part 5 -----

Dates: 9. 3.2021 and 30. 3.2021 are different

Date: 9. 3.2021 is earlier than 30. 3.2021

----- Part 6 -----

Days from: 9.Mar.2021 to 30.Mar.2021 : 21

Days from: 30. 3.2021 to 9. 3.2021 : 21

Days from: 9. 3.2021 to 9. 3.2021 : 0