

## 1 Description

In this project you will develop a program, which answers queries about Sun and Moon. Please get the CSV data file for 2016 from <http://galupki.de/kalender/sunmoon.php?lat=47.4999&lon=8.7376&ort=Winterthur#export>

## 2 Work plan

The work consists of the following units:

- ✓ A console based application that loads the Sun/Moon data from the CSV file and allows the user to query this data from a console based interface.
- ✓ Allow the user to query for the next full moon.
- ✓ Allow the user to find out sunrise and sunset times for a given date.
- ✓ Allow the user to query for full moons during the night.
- ◇ Allow more complex search criterias. For example, an astronomer searches for a weekend night without moon during the night. So either there is almost new moon or the moon is only visible during the day. In addition, in summer the absolute darkness is very short.
- ◇ Develop a small GUI and show the moon phases as a picture, given a specific date by the user.

## 3 Scope

The project counts as completed if the system can be demonstrated implementing the functionality of all ✓-items. The ◇-items are optional items for extra points.