

Fundamentals of Artificial Intelligence Programming Exercise CSP

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Constraint Satisfaction Problem: Traveling around the World

Student team:

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Barcelona/Beijing/New York City/Paris/Rome

General Information - CSP

Start and Deadline

- **Start: 17.11.2023, 13:00**
- **Deadline: 15.12.2023, 23:59**

Framework:

- Publication, Guidelines, and Submission of the exercise on **ARTEMIS** (<https://artemis.ase.in.tum.de/>)
- CSP Exercise description on **Moodle**
- Implementation of your solution in provided **Jupyter Notebook**
- Successful submission → **1 Bonus Point**

Programming Framework - General

- Programming Language: **Python**
- Work through **AIMA Installation Instructions** on Moodle:
 - Docker (recommended for beginners)
 - Git

The screenshot shows a Moodle course page with a sidebar on the left containing a 'General' section. This section lists several items:

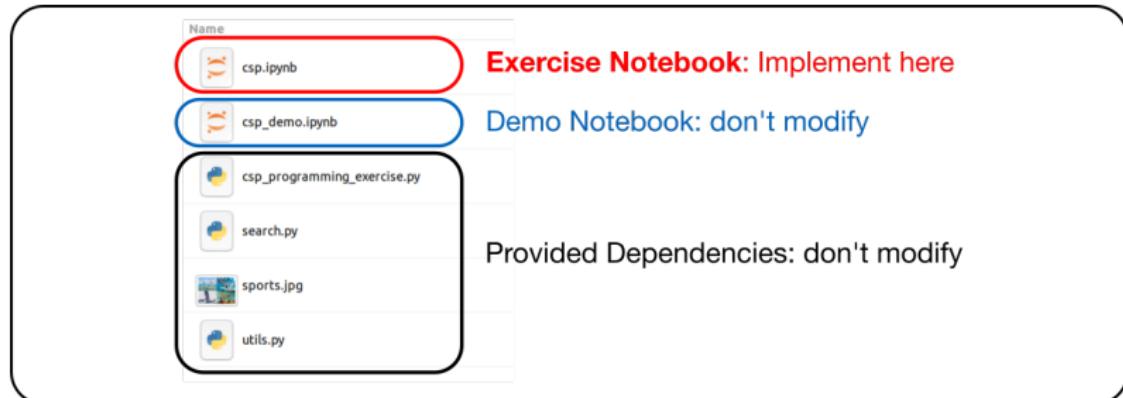
- FORUM Announcements
- FORUM Forum - General
- LINK/URL Textbook: Artificial Intelligence - A Modern Approach, 3rd Ed., Norvig et al.
- LINK/URL Livestream/Lecture Recordings
- LINK/URL Tutor Hour - Zoom Link
- TEXTSEITE Python Tutorials & AIMA Installation Instructions

The last item, "TEXTSEITE Python Tutorials & AIMA Installation Instructions", is highlighted with a red rectangular border around its icon and text.

ARTEMIS - Set up the exercise

In order to get started with the exercise do the following steps:

- Log into ARTEMIS with TUM Credentials → Find Course "**Fundamentals of AI (ai23)**"
- Find exercise "**Constraint Satisfaction Problems**" → Click on
- Start exercise → Follow the installation guidance
- Make sure to clone the repository into the created **homework** folder
→ this should create the folder **ai23csp-<your_TUM_ID>**



ARTEMIS - Implement and Submit Solution

① Start the *Jupyter* web-interface:

- Docker: Go to <http://localhost:8888/> with your browser
- Git: Enter `cd PATH_TO_YOUR_AIMA_DIRECTORY`, then `jupyter notebook` in your Terminal

② Find your exercises under `/homework/ai23csp-<your_TUM_ID>`

③ Run **demo notebook** `csp_demo.ipynb` to understand the framework

④ **Implement your solution** in `csp.ipynb`

⑤ **Submit** to ARTEMIS in your Terminal via git:

- `git add csp.ipynb`
- `git config user.email "<your.TUM@email.de>"`
- `git config user.name "<Your Name>"`
- `git commit -m "Write a commit message here."`
- `git push`

⑥ **Check evaluation** in ARTEMIS

ARTEMIS - Successful Submission

If **all tests have passed** in ARTEMIS your submitted solution is correct.

The screenshot shows the ARTEMIS interface for a programming exercise. At the top, there is a navigation bar with a 'Clone Repository' button. Below it, a main content area has a heading 'Programming Framework' and a paragraph about using a Jupyter Notebook template. To the right, a large green box displays the submission status: '100% (2 days ago) GRADED'. Below this are three buttons: 'Submissions', 'Grading', and 'Edit'. Above the status box, a toolbar titled 'Tutor actions' includes buttons for 'View', 'Scores', 'Participation', 'Submissions', 'Grading', and 'Edit'. A vertical sidebar on the right contains a scroll bar and some text. At the bottom, there is a toolbar with 'Upload', 'New', and other icons, along with a progress bar labeled 'Notebook:'.

Clone Repository

Tutor actions: View Scores Participation Submissions Grading Edit

100% (2 days ago) GRADED

Submissions Grading Edit

Programming Framework

For this programming exercise a *Jupyter Notebook* will be used. The template for the exercise can be downloaded up the environment for the programming exercise:

Installation of the AIMA Python Code

Instructions on how to install the *AIMA python* code can be found in the *AIMA installation instructions* file.

Retrieving the template

You can pull the template from ARTEMIS using git. To do so, you need to open up a console:

- If you installed AIMA through Docker, you can open a console from the main page by clicking on [New](#), and then [Terminal](#) (see figure below). @@Check that the figure is correctly

Upload New Notebook:

Questions

For questions regarding the exercise and/or ARTEMIS use the corresponding forum on [Moodle](#)

The screenshot shows a Moodle forum page titled "Forum - Programming Exercises". The page header includes the course name "Fundamentals of Artificial Intelligence (W22/23) / Forum - Programming Exercises". Below the header, there is a red icon of a speech bubble with a plus sign, followed by the word "FORUM". The main title "Forum - Programming Exercises" is displayed in large, bold, black font. Below the title, there is a navigation bar with links: "Forum" (underlined in blue), "Einstellungen", "Erweiterte Bewertung", "Abonnements", "Berichte", and "Mehr ▾".

or attending our [Tutor Hour](#)