

EIST Exam Information

Systems Research Group

<https://dse.in.tum.de/>



- **Part I: Exam information**
 - General format
 - Code of conduct
 - Exercise contents
 - Correction timeline
 - Software requirements
- **Part II: Artemis**
 - Mode of operation
 - A guide through Artemis
 - Important notes

- When?
 - **Monday, 28.07.2025, 08:00**
 - Be in the lecture hall at least 30 mins before (take travel delays into account)
 - 90 mins working time
 - Students with Nachteilsausgleich will receive extra time
- Where?
 - artemis.tum.de
 - Lecture hall assignment will be sent via email (after de-registration period ends)
- What?
 - Programming exercises (90 points)
 - Multiple choice (10 points)
 - Bring and prepare **your laptop!**
 - If possible, bring an extension cord.

- Bring your own laptop
 - Remove privacy screen protectors
- You are responsible to ensure your setup works
 - **Participate in the test exam!**
- Staff cannot help you with
 - Build errors
 - Broken laptops (incl. random software updates)
 - Incorrect dependencies
 - Artemis issues
 - Git issues
 - ...

Exam Format: Limited Open Book, No AI

- Limited Open Book
 - List of allowed online resources
- Prohibited plagiarism:
 - No chat/forum/discussion group
 - **No AI** tools (e.g. ChatGPT, Copilot, JetBrains AI, ...)
- Staff will roam lecture halls to identify plagiarism!
 - Unterschleif (cheating) → exmatriculation (see APSO)
 - On suspicion of plagiarism: Oral exam

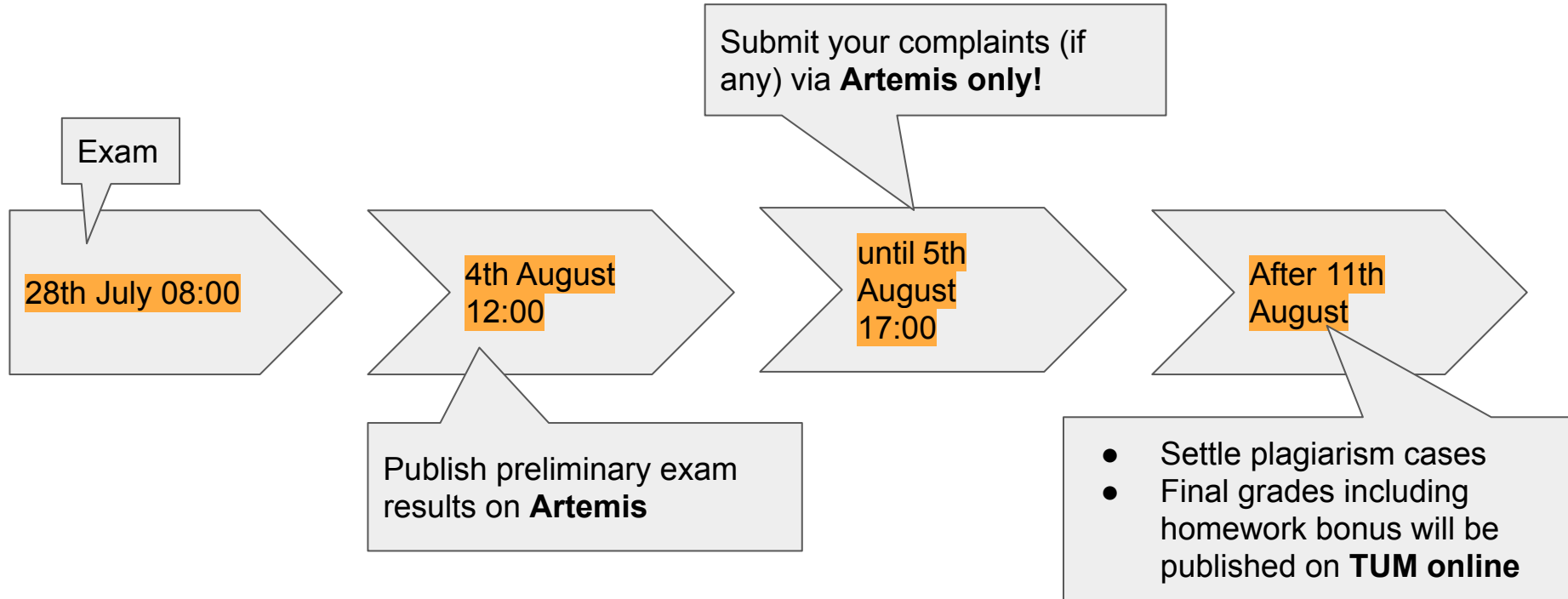
Link: [Code of Conduct](#)

- Lecture slides (**PDF**)
- Your **own** homework solutions (**cloned**)
- Cheat-sheets/self-written notes (**printed/on paper/PDF**)
- C reference: <https://en.cppreference.com/w/c/language>
- Python reference: <https://docs.python.org/3/reference/index.html>
- Java reference: <https://www.baeldung.com/get-started-with-java-series>
- Java reference: <https://docs.oracle.com/en/java/javase/22/>
- gRPC reference: <https://grpc.io/docs/>
- Spotbugs: <https://spotbugs.readthedocs.io>
- AddressSanitizer: <https://gcc.gnu.org/onlinedocs/gcc/Instrumentation-Options.html>
- Spring Boot: <https://www.baeldung.com/spring-boot>
- Spring Boot: <https://spring.io/projects/spring-boot>
- Docker: <https://docs.docker.com/>
- JavaFX: <https://openjfx.io/openjfx-docs>
- Gradle: <https://docs.gradle.org/current/userguide/userguide.html>
- Git: <https://git-scm.com/docs>
- JUnit: <https://junit.org/junit5/docs/current/user-guide/>
- Mockito: <https://javadoc.io/doc/org.mockito/mockito-core/latest/org/mockito/Mockito.html>
- EasyMock: <https://easymock.org/user-guide.html>
- man pages (command line, not online)

Exam: Exercise Contents

- Programming exercises (90 points)
- Similar to homework exercises
 - **All** topics covered in the lecture
 - No points deduction for code style
- 5 multiple choice questions (2 points each)

Exam: Correction Timeline



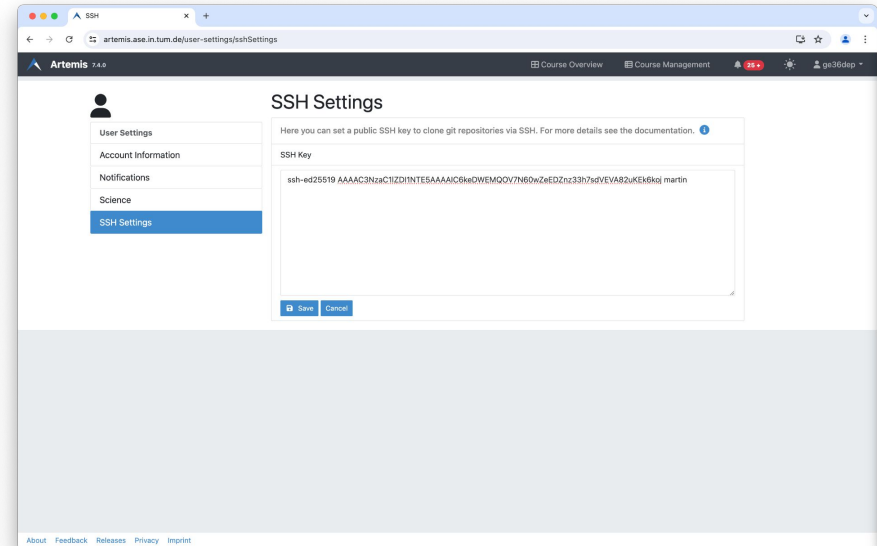
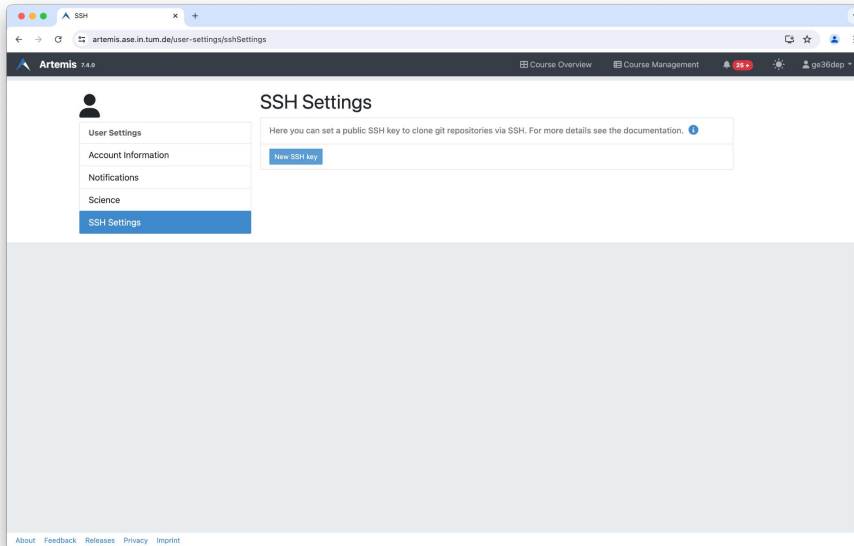
- Browser: **Chromium**-based, e.g., Google Chrome (recommended)
- **Java 17** development environment (IDE, e.g. IntelliJ)
- **Gradle** (build system)
- **C** development environment (gcc, clang, make, Address Sanitizer, ...)
- **Docker desktop** (or docker on linux-x86_64)
- **SpotBugs/Infer** (IDE plugin or dedicated)
- **Spring**
- Available in your command line:
 - **Git**
 - **Docker**
 - **Gcc** ($\geq 13.3.0$), **clang** (≥ 20.0), **make** (in WSL)
 - **Python** (> 3.6)

Exam: Setup Preparation

- Prepare your laptop setup:
 - Disable IntelliJ AI autocompletion/Copilot
 - Do downloads in advance!
- Remove privacy screen protectors!
- Ensure you are able to build/run/solve **all homework exercises**

Exam: Setup Preparation

- Make sure your Wifi works in your lecture hall
- Automate git authentication
 - Recommendation: set up and use ssh key (<https://artemis.tum.de/user-settings/ssh>)



Exam: Setup Preparation

- Bring an extension cord
- Normal lecture halls have plugs at every second seat
 - We will send out an email with seat assignments
 - Check which lecture hall you are assigned to




Exam: Artemis

- Limited feedback during exam:
 - Compile errors visible
 - No test results visible!
- Compile errors → 0 points
- Artemis' online editor is disabled
- You only need network connectivity to
 - Fetch the code template
 - Submit your solution via git
 - Start and hand in your exam

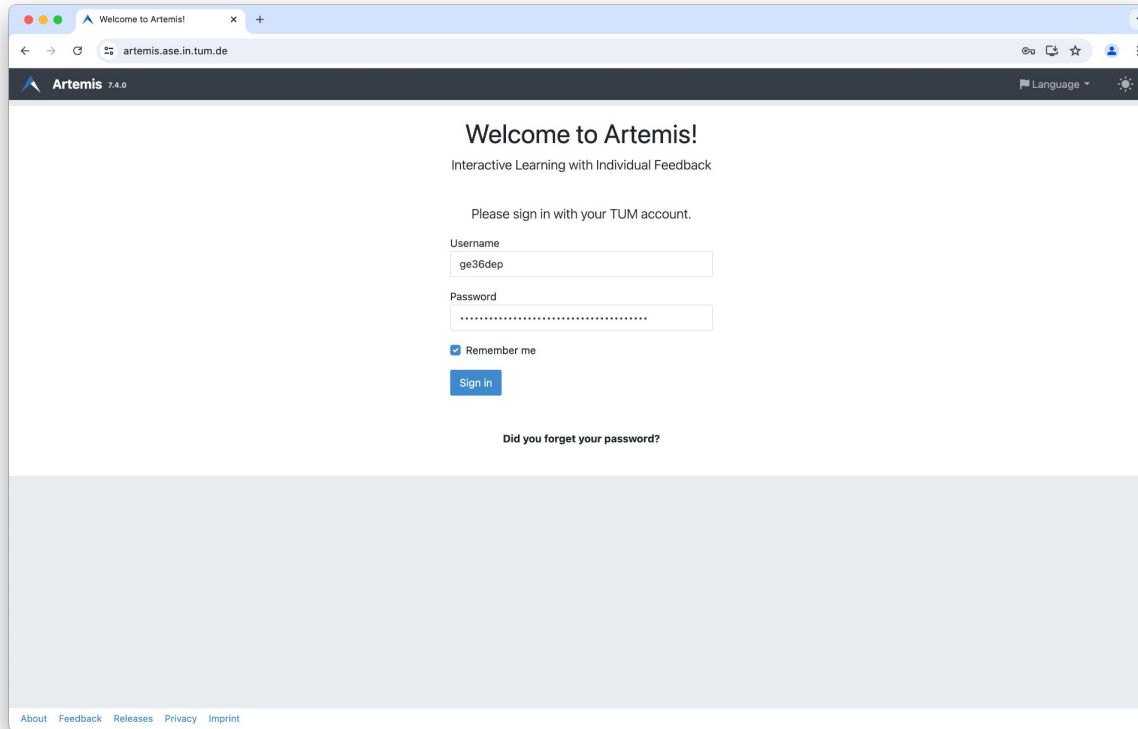
Compile error:

 **0%, Build Failed** **GRADED**

No compile error:

 **0%, Build successful, no tests executed, 0 of 20 points (preliminary)** **GRADED**

Artemis: Open the Exam



The screenshot shows a web browser window with the address bar displaying "artemis.ase.in.tum.de". The page title is "Welcome to Artemis!". The main content area has a heading "Welcome to Artemis!" followed by the subtitle "Interactive Learning with Individual Feedback". Below this, a message says "Please sign in with your TUM account." The login form includes a "Username" field with the text "ge36dep", a "Password" field with masked characters, a checked "Remember me" checkbox, and a blue "Sign In" button. A link "Did you forget your password?" is located below the button. The footer contains links for "About", "Feedback", "Releases", "Privacy", and "Imprint".

Welcome to Artemis!

Interactive Learning with Individual Feedback

Please sign in with your TUM account.

Username
ge36dep

Password
.....

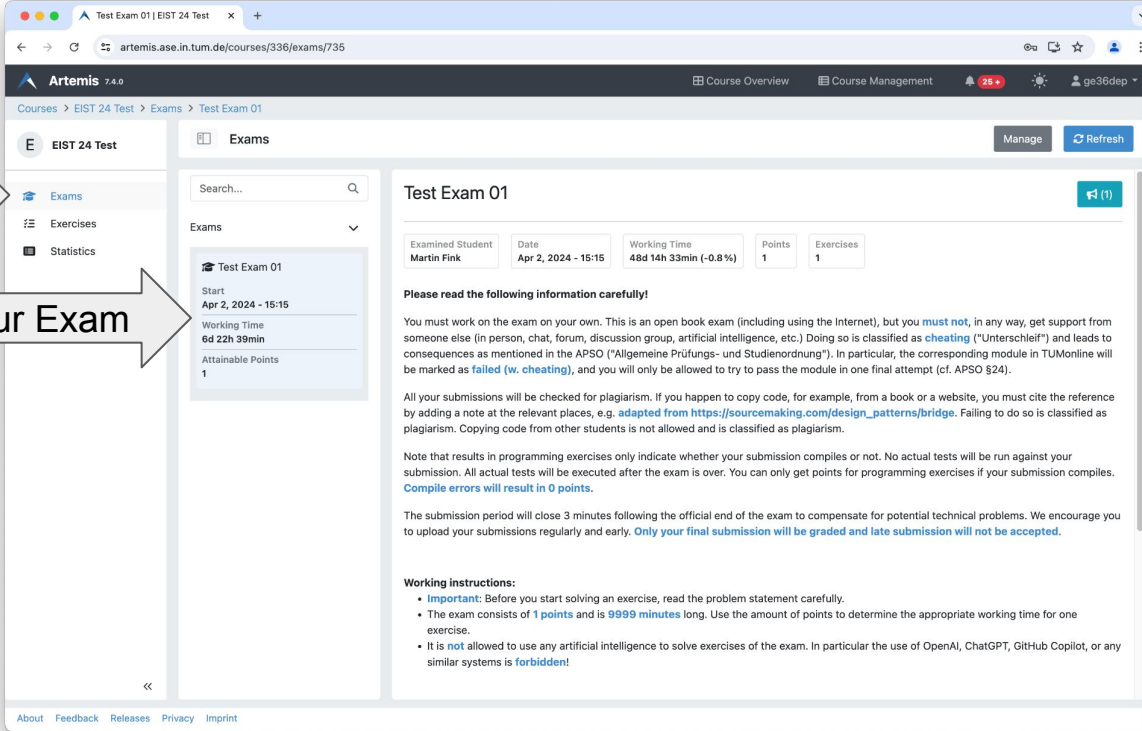
☒ Remember me

[Sign In](#)

[Did you forget your password?](#)

[About](#) [Feedback](#) [Releases](#) [Privacy](#) [Imprint](#)

Artemis: Open the Exam



Exams

Your Exam

Test Exam 01

Exam	Start	Working Time	Attainable Points
Test Exam 01	Apr 2, 2024 - 15:15	6d 22h 39min	1

Test Exam 01

Examined Student: Martin Fink

Date: Apr 2, 2024 - 15:15

Working Time: 48d 14h 33min (-0.8 %)

Points: 1

Exercises: 1

Please read the following information carefully!

You must work on the exam on your own. This is an open book exam (including using the Internet), but you **must not**, in any way, get support from someone else (in person, chat, forum, discussion group, artificial intelligence, etc.) Doing so is classified as **cheating** ("Unterschleif") and leads to consequences as mentioned in the APSO ("Allgemeine Prüfungs- und Studienordnung"). In particular, the corresponding module in TUMonline will be marked as **failed (w. cheating)**, and you will only be allowed to try to pass the module in one final attempt (cf. APSO §24).

All your submissions will be checked for plagiarism. If you happen to copy code, for example, from a book or a website, you must cite the reference by adding a note at the relevant places, e.g. **adapted from https://sourcemaking.com/design_patterns/bridge**. Failing to do so is classified as plagiarism. Copying code from other students is not allowed and is classified as plagiarism.

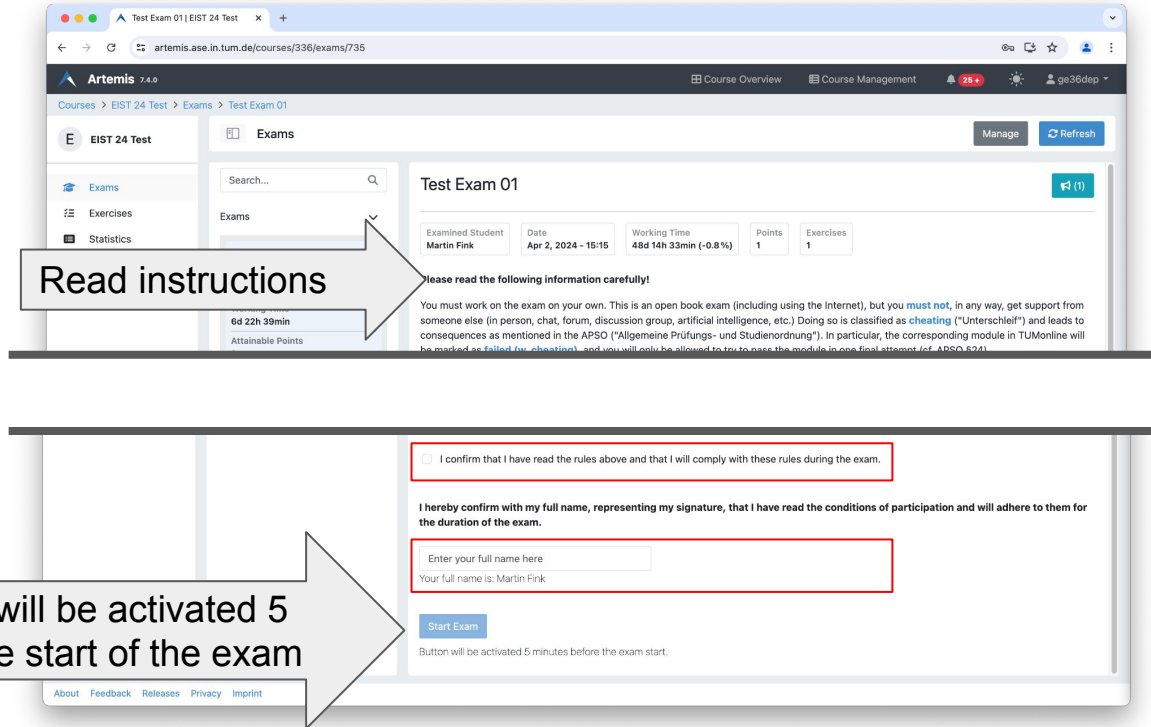
Note that results in programming exercises only indicate whether your submission compiles or not. No actual tests will be run against your submission. All actual tests will be executed after the exam is over. You can only get points for programming exercises if your submission compiles. **Compile errors will result in 0 points.**

The submission period will close 3 minutes following the official end of the exam to compensate for potential technical problems. We encourage you to upload your submissions regularly and early. **Only your final submission will be graded and late submission will not be accepted.**

Working instructions:

- **Important:** Before you start solving an exercise, read the problem statement carefully.
- The exam consists of **1 points** and is **9999 minutes** long. Use the amount of points to determine the appropriate working time for one exercise.
- It is **not** allowed to use any artificial intelligence to solve exercises of the exam. In particular the use of OpenAI, ChatGPT, GitHub Copilot, or any similar systems is **forbidden!**

Artemis: Welcome Screen



The screenshot shows the Artemis 7.4.0 interface for 'Test Exam 01'. The left sidebar contains 'Exams', 'Exercises', and 'Statistics'. The main content area displays exam details for 'Martin Fink' on 'Apr 2, 2024 - 15:15' with a '48d 14h 33min (-0.8%)' working time, 1 point, and 1 exercise. A 'Start Exam' button is visible at the bottom.

Read instructions

Please read the following information carefully!

You must work on the exam on your own. This is an open book exam (including using the internet), but you **must not**, in any way, get support from someone else (in person, chat, forum, discussion group, artificial intelligence, etc.) Doing so is classified as **cheating** ("Unterschieß") and leads to consequences as mentioned in the APSO ("Allgemeine Prüfungs- und Studienordnung"). In particular, the corresponding module in TUMonline will be marked as **failed for cheating**, and you will only be allowed to take the module in one final attempt (cf. APSO §24).

☐ I confirm that I have read the rules above and that I will comply with these rules during the exam.

I hereby confirm with my full name, representing my signature, that I have read the conditions of participation and will adhere to them for the duration of the exam.

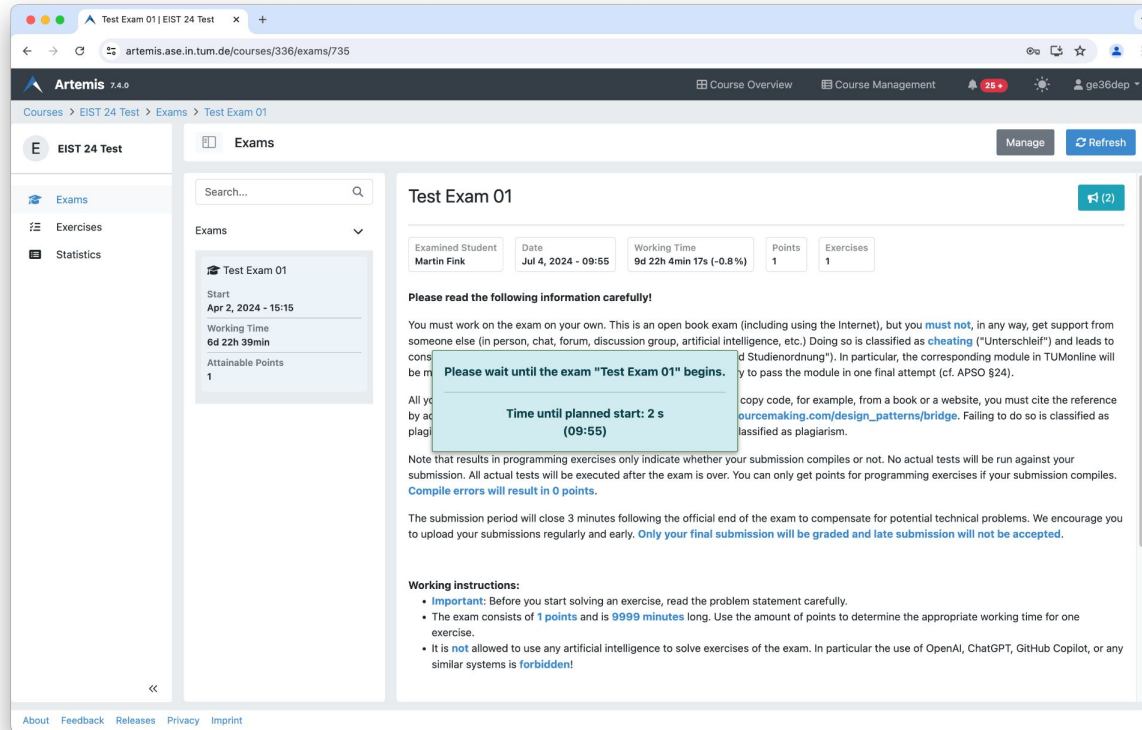
Enter your full name here
Your full name is: Martin Fink

Start Exam

Button will be activated 5 minutes before the exam start.

Start: Button will be activated 5 min before the start of the exam

Artemis: Wait for the Exam to Start



Artemis 7.4.0

Course Overview Course Management 25+ ge36dep

Courses > EIST 24 Test > Exams > Test Exam 01

EIST 24 Test Exams Exercises Statistics

Exams

Search...

Test Exam 01

Start
Apr 2, 2024 - 15:15

Working Time
6d 22h 39min

Attainable Points
1

Test Exam 01

Examined Student	Date	Working Time	Points	Exercises
Martin Fink	Jul 4, 2024 - 09:55	9d 22h 4min 17s (-0.8 %)	1	1

Please read the following information carefully!

You must work on the exam on your own. This is an open book exam (including using the Internet), but you **must not**, in any way, get support from someone else (in person, chat, forum, discussion group, artificial intelligence, etc.) Doing so is classified as **cheating** ("Unterschleif") and leads to consequences (cf. Studienordnung). In particular, the corresponding module in TUMonline will be marked as failed. If you want to pass the module in one final attempt (cf. APSO §24), you must copy code, for example, from a book or a website, you must cite the reference source.making.com/design_patterns/bridge. Failing to do so is classified as plagiarism.

Note that results in programming exercises only indicate whether your submission compiles or not. No actual tests will be run against your submission. All actual tests will be executed after the exam is over. You can only get points for programming exercises if your submission compiles. **Compile errors will result in 0 points.**

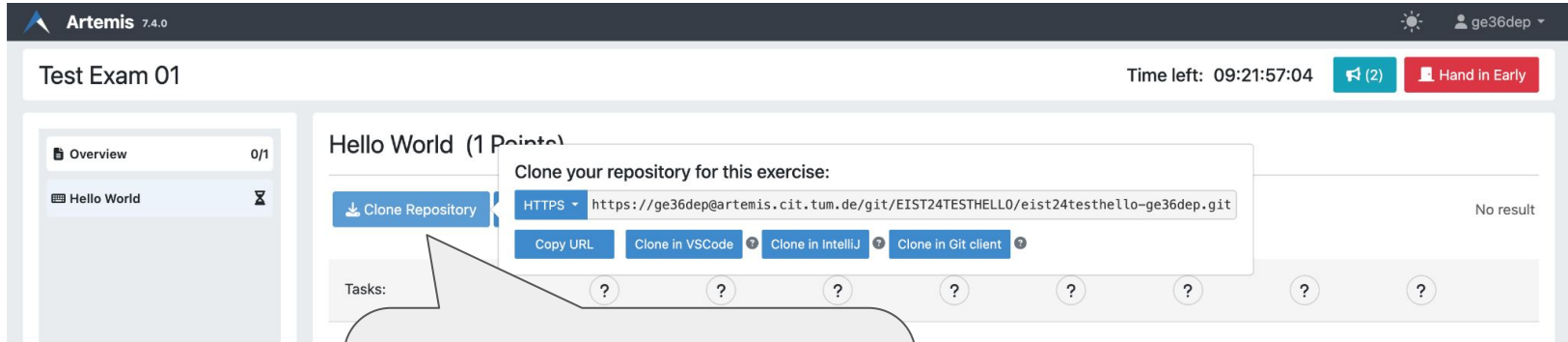
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- Important:** Before you start solving an exercise, read the problem statement carefully.
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About Feedback Releases Privacy Imprint

Artemis: Cloning the Template



Artemis 7.4.0

Test Exam 01

Time left: 09:21:57:04

Hand in Early

Overview 0/1

Hello World ⌛

Hello World (1 Point)

Clone your repository for this exercise:

Clone Repository

HTTPS https://ge36dep@artemis.cit.tum.de/git/EIST24TESTHELLO/eist24testhello-ge36dep.git

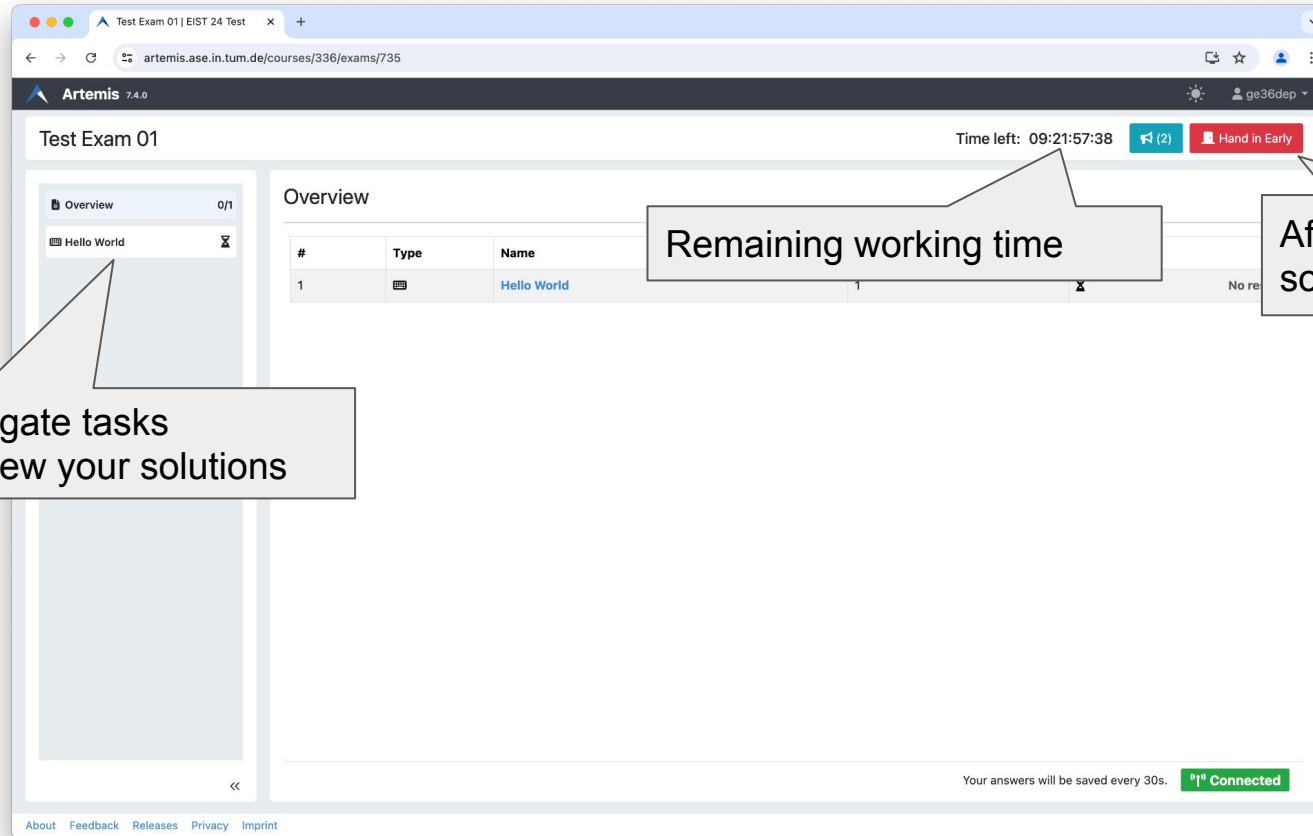
Copy URL Clone in VSCode Clone in IntelliJ Clone in Git client

No result

Tasks: ? ? ? ? ? ? ? ?

1. Clone exercise repository
2. Read instructions
3. Implement solution
4. Test your solution locally
5. Commit & push it

Artemis: The Exam



The screenshot shows the Artemis exam interface. The browser address bar displays the URL `artemis.ase.in.tum.de/courses/336/exams/735`. The page title is "Test Exam 01". The user's name is "ge36dep". The time left is "09:21:57:38". There are two buttons: "Hand in" and "Hand in Early". The "Overview" section shows a list of tasks, with "Hello World" selected. The "Overview" table lists the tasks.

#	Type	Name
1		Hello World

At the bottom, it says "Your answers will be saved every 30s." and "I'm Connected".

Navigate tasks
Review your solutions

Remaining working time

After handing in, your
solutions are final.



Artemis: Hand in Exam

If you miss this step, your online exercise will **not be graded** and you fail the module!

Code, or other documents submitted outside of Artemis will **not be graded**.

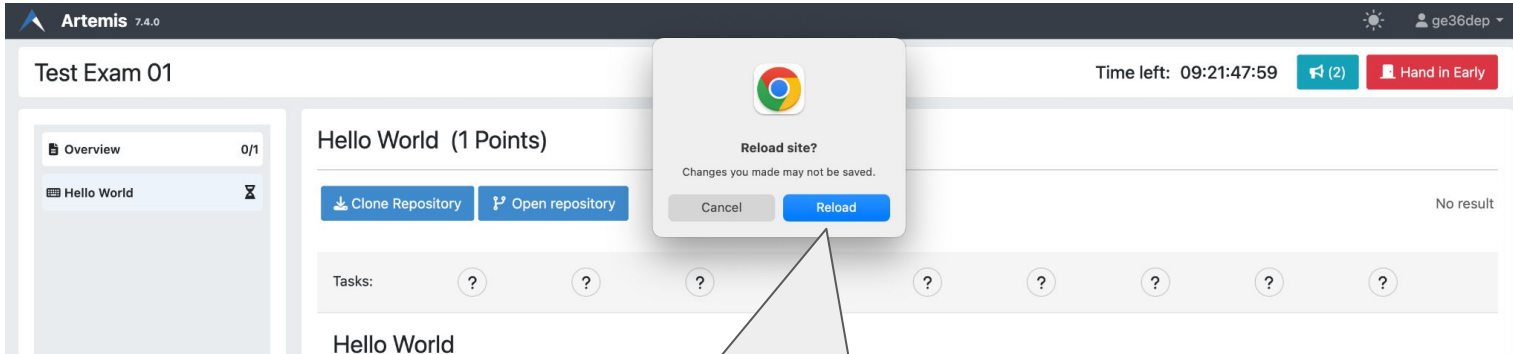
The screenshot shows a web browser window with the URL `artemis.ase.in.tum.de/courses/336/exams/735`. The page title is "Test Exam 01 | EIST 24 Test". The Artemis logo and version "7.4.0" are in the top left. A user profile "ge36dep" is in the top right. The main content area says "This is the end of Test Exam 01." and "Please confirm and click on 'Finish' within the time limit." Below this is a checkbox and a confirmation statement: "I hereby confirm with my full name, representing my signature, that this exam is my own work and I have only used the indicated aids." A text input field is labeled "Enter your full name here" with a hint "(Your full name is: Martin Fink)". A red warning message states: "Hand in Early. You are about to hand in your submission before the end of the exam. After finishing the exam you cannot participate any longer." A blue "Finish" button is below the warning. At the bottom, there is a "← Continue" button and the text "You don't want to hand in yet?". On the right side, a timer shows "Time left to submit: 09:21:52:12".

Remaining submission time

! Artemis: Don't Reload!

If you reload the browser, the welcome screen opens again and you have to enter your name and confirm the checkbox again (see Welcome Screen).

You should only need to reload if an **error** occurs that **cannot be recovered** otherwise.



The screenshot shows the Artemis 7.4.0 interface. On the left, there's a sidebar with 'Overview' (0/1) and 'Hello World' (1 point). The main area displays 'Hello World (1 Points)' with buttons for 'Clone Repository' and 'Open repository'. Below this, there's a 'Tasks' section with several question marks. A 'Hello World' task is visible. A 'Reload site?' dialog box is open in the center, with the text 'Changes you made may not be saved.' and buttons for 'Cancel' and 'Reload'. A callout box points to the 'Reload' button with the text 'Pending changes will be lost'.

Artemis 7.4.0

Test Exam 01

Overview 0/1

Hello World 1

Hello World (1 Points)

Clone Repository Open repository

Reload site?

Changes you made may not be saved.

Cancel Reload

Tasks: ? ? ? ? ? ? ? ?

Hello World

Time left: 09:21:47:59 (2) Hand in Early

No result

Pending changes will be lost

Artemis: Participate in **One** Browser Window!

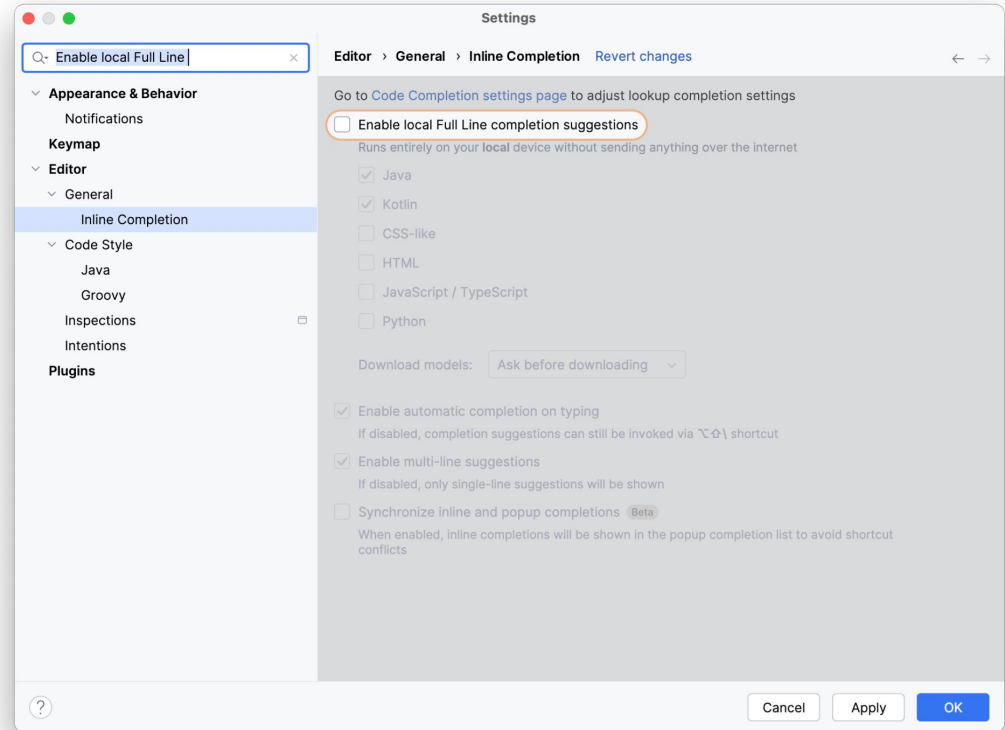
Working in multiple browser windows at the same time is **not** allowed!

It will lead to synchronization issues and is seen as suspicious behaviour that may be recognized as cheating!



Exam: Disable IDE AI tools

- Full Line completion
- JetBrains AI assistant
- Copilot
- ...



- Next week (**24.07.2025 at 09:00**) during the lecture timeslot
- Purpose: get familiar with Artemis' exam mode
- Does not award any bonus points
- Participation is **recommended**, but not required
- Content:
 - Consists of old exam exercises
 - **Unrelated** to the actual exam