Introduction
Correspondence via piazza
Lecture and Exercise Material is uploaded to piazza and rostlab.org
Please additionally watch rostlab for changes
In case of problems ask on piazza first
If there are any Problems with ArTEMiS contact us and do not bother Dr. Krusche or Prof. Bruegge!!
In case of an emergency contact pp1ex@rostlab.org
Communication mainly on piazza
https://piazza.com/tum.de/spring2020/pp1cs/home
Get help by instructors and students
Not for sharing code! Mainly technical issues or task clarification
Weekly Video Presentation:
- Rehearsing and explaining lecture material
- Discussion of previous homework
- Introduction to new homework

Exercise Sheet with Coding Exercise

Weekly Online Q&A Exercise Session on Mondays (2-3pm on BBB)
- Answer questions regarding exercise content
- Resolve understanding issues
- No coding questions
- Please ask on piazza first
Coding Exercise

- Python 3.8 (pytest 5.4.1)
- Strict compliance with the provided template
- Homework worksheets are published on piazza and rostlab.org each Thursday
- Submit homework before Wednesday 23:59 pm, 1 week after publishing (you have 1 week)
- We will check for plagiarism in your code -> Will void the all earned exercise points
- Do not include personal data in your code as it might be uploaded to non-TUM servers (plagiarism check)
We publish test cases. Use them to make sure your code runs and adheres to the specification.

The global tests use different data with the same tests and might be slightly more extensive.

Don’t try modifying the local test code! It will not be used anyway.

We won’t answer questions regarding the content of the server.
Testing Using Docker

- Navigate to Code Repo
  
  ```
  $ cd /home/$USER/workspace/exercise0/
  ```

- Run pytest in code directory
  
  ```
  $ run --rm -it -v $(pwd):/mnt/code rostlab/pp1cs pytest -v
  ```

- For more information check out our docker primer
There will be short quizzes Tuesdays and Thursdays 11:00 – 11:30am
If you achieve at least 80 % of the total points you get a 0.3 bonus on a passed exam
If you pass more than 75 % of the programming exercise you will get a bonus grade (75 % equals 4.0 so you might want to pass more)
The bonus grade will count 50 % of the final grade but only if it improves your exam grade (has to be $\leq 4.0$)
The quiz bonus will be applied after the exercise grade
Exercise & Quiz
If you are new to python, complete the tutorial at https://docs.python.org/3/tutorial/
In order to participate in the exercises you need to know basic git commands

If you are new to Git, complete the tutorial at https://try.github.io
Artemis

- AuTomated assEssment Management System for Interactive Learning
- https://artemis.ase.in.tum.de
- Log in using your TUM online credentials
- You need to register yourselves
- Do not rely on ArTEMiS submission time as that relies on your system time and thus might be wrong
Your current courses

Sign up for a course
| Your current courses | Protein Prediction 1 (Summer 2019) | Sign up for selected course | Cancel |
Your current courses

Protein Prediction 1 (Summer 2019)

Your current score:
0%

No exercise planned
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Status</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz Lecture 1</td>
<td>Not released</td>
<td>05/05/20 (in 7 days)</td>
</tr>
<tr>
<td>Exercise 0</td>
<td>You have not started yet.</td>
<td>06/05/20 (in 8 days)</td>
</tr>
</tbody>
</table>
1) Are proteins relevant?

Please choose all correct answer options

- yes
- maybe
- no
2) Short Answer

- bioinformatics
- biology
- computer science

is a combination of [ ] and [ ].
1) Short Answer
   - bioinformatics
   - biology
   - computer science

   bioinformatics is a combination of computer science and biology.

   Show Sample Solution

2) Are proteins relevant?
   Please choose all correct answer options

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<th>Solution</th>
<th>You</th>
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<tr>
<td>yes</td>
<td>Correct</td>
<td></td>
</tr>
<tr>
<td>no</td>
<td>Wrong</td>
<td>✔</td>
</tr>
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1) Short Answer
   - bioinformatics
   - biology
   - computer science

   bioinformatics is a combination of biology and computer science.

2) Are proteins relevant?
   Please choose all correct answer options

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Mainly aimed at testing that you have a working setup
Start the exercise in ArTEMiS & clone the repository
Modify the method complementary in the exe0_comp.py file, s.t. it returns a string of complementary DNA nucleobases for a given string
Test your method by running pytest using docker in the directory of the main file.
For example, it should return T for A, C for G, and ATGC for TACG
Commit your changes and push to run server tests
Debugging
Check for syntax error if you receive feedback like this:
- Task 2 implement a simple substring search
- Task 3 introduces dynamic programming by implementing longest increasing/decreasing substring search
- Use local tests to make sure your program compiles and passes the tests before submitting!
- If you have questions do not share code on piazza but rather test output
Important concept in bioinformatics
- Relies on **Optimal Substructure** and **Overlapping Sub-Problems**
- Basically divide and conquer approach with saved intermediary results
- In our case: First find lis of length 1 and then build it up
Thank you!

QUESTIONS?