

## Exercise - 8

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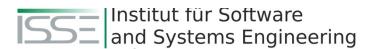
Task(s):

• Download the assignment zip archive here:

https://sync.academiccloud.de/index.php/s/5khWacwyUlwaV7X

• Programming language: Python 3.10

- You can use this Virtual Machine for a pre-installed environment: Link (Password: 5cnN59dzVEm5atc)
- Please watch the <u>"Python-Exercise-Tutorial"</u> summarizing how to do the python programming exercises.
- General Instructions
  - Unzip the handout zip archive
  - The handout contains a Pipfile. You can install the dependencies for the exercises by running `pipenv install`. (You might have to install pipenv and pvenv first)
  - Activate the python virtual environment using `pipenv shell`.
  - In the E08 directory, you will see the following:
    - 1. solution.py
    - 2. driver.py
    - 3. ETCE/blockchain.py
  - You only need to modify the "solution.py" file. More detailed instructions on where you need to insert your code can be found in this file and in the ETCE/blockchain.py file. The automated grading mechanism can grade your solution only if you follow the structure provided in the "solution.py" file.
  - You can use "driver.py" to verify whether your program would pass the grading: `python3 driver.py`.
  - This file will give you feedback on your solution.
- Create a zip file of your submission:
  zip -r E08-<Your StudIP Username>.zip E08 Makefile Pipfile
- Remember that your solution zip file should have exactly the same file format as the handout zip file.
- To make it easier, you can just run `make zip` in the top-level handout folder to automatically create a zip archive with the correct directory structure.





• Upload your submission to the StudIP folder "E08-Submissions" ONLY. We will not accept submissions uploaded to any other folder.

## Task Description - Blockchain

You just learned about the basics of a blockchain, e.g., transactions, blocks, and chaining blocks together. Exercise 08 and 09 will help you implement your own simple blockchain. This exercise relies on the three building blocks mentioned above.

## Instructions(s):

- 1. As usual you only have to modify the solution.py file
- 2. Implement the Ex08Transaction, Ex08Block and Ex08Blockchain classes in the space provided in the **solution.py** file, based on the documentation of the classes given in **ETCE/blockchain.py.**
- 3. Also implement the scenario function in **solution.py**.

