TU Clausthal

Exercise – 8

Published on: 26.06.2023

Deadline: 03.07.2023 – 1:59pm

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 "Python-Exercise-Tutorial" 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 pyenv 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**.