# Exercise 8

Please prepare a written documentation for each task *before* the exercise date. Repeated failure to prepare the worksheet may result in not being admitted to the exam. You may also be asked to present your solution in class.

1. Describe the difference between a virtual machine and a Docker container.

2. What is the main purpose of Continuous Integration?

   a) automatically deploy to production

   b) merge all code changes into production every hour

   c) frequently integrate code into a shared repository and run automated tests

   d) build Docker containers for each feature

3. Build a Docker container for your command line application "website monitor". You should be able to specify the website as a command line parameter. Run the app in the container. Note down the command line for this and the output of your program.

4. Which tool is commonly used to orchestrate CICD pipelines?
   a) Kubernetes

   b) Jenkins

   c) Ansible

   d) Terraform

5. The testing stage in your CI pipeline takes very long and causes timeouts. Name strategies to speed it up.

6. Think about a hard question for the final written exam of the SWE-D lecture yourself. All lectures topics could be relevant. Send this question via email to robert.lokaiczyk@fra-uas.de using the subject "exam question".