# Devops Engineer Homework

## General

You commit to do this homework by your own
DON'T share the homework with anyone

## Expected results

- Present results in Github repositories, please provide the link in public
- 3 repositories
  - Repo A: fork
  - RepoC: for python
  - Repository for your pipelines and README
    - Store artifacts of each task in separate branch
    - Branches
    - TaskB
      - PipelineB
    - TaskC
      - Pipelinec
    - TaskD
      - README.md

## About Jenkins environment

- Executor node: for this case you can run on the master; you can assume/use a standard linux or windows machine
- Needed tools on executor node
  - Python 3.x
  - Doxygen
    - <https://www.doxygen.nl/index.html>
- Use any recent version of Jenkins

## About pipelines

- No freestyle
- No shared libraries
- If used, specify required Jenkins plugins to run pipelines

# Tasks

### TaskB

- RepoA
    - Create a fork of repo
        - https://github.com/grpc/grpc (or similar, with C++/C source files)
- PipelineB
    - Clone repoA
    - generate doxygen config file (via shell on node: "doxygen...")
        - <https://www.doxygen.nl/manual/starting.html#step1>
    - adjust config file
        - Set folder “src” as INPUT
            - <https://www.doxygen.nl/manual/config.html#cfg_input>
        - set only HTML output
            - <https://www.doxygen.nl/manual/config.html#config_html>
    - run doxygen using config file
    - pack all generated output as doc.tar.gz
    - archive it

### TaskC

- RepoC
    - write an easy basic doxygen log parser written in python
        - parameter
            - warnings log file
                - produced by doxygen
        - parse file
            - ignore not standard lines
            - identify separator
        - output
            - csv
                - Line
                - File
                - Message
        - if uses additional modules to be installed via pip, add a requirements.txt
- PipelineC
    - Extend pipelineB with below
    - generate doxygen, this time produce warnings file
        - need to modify config file
        - <https://www.doxygen.nl/manual/config.html#config messages>
    - clone repoC
        - install dependencies if necessary
    - run python from repoC passing doxygen warnings file as parameter

**TaskD**

- Add a README.md to provide your answers
    - Markdown
- Questions
    - How did you test your pipelines?
    - How did you test repoC python?
    - RepoA-doc contains binaries
        - What is the advantage to use LFS?
        - <https://git-lfs.github.com/>
    - How to adjust this repository to support LFS?
        - provide links
        - You might find the git way
        - Are there other (easier) alternatives?