Part 1: Dockerised Version for Application 2: Python Fibonacci Application (CLI based)

To run this dockerised Python application, you can follow these steps:

1. Open a terminal, navigate to the directory containing your `Dockerfile` and Python script, and run the following command to build the Docker image (This command builds a Docker image named `Fibonacci-app` based on your Dockerfile):

   ```
   docker build -t fibonacci-app .
   ```

2. After the image is built, you can run a Docker container based on that image. Use the following command (This command starts a Docker container from the `fibonacci-app` image, and it will execute your Python script inside the container named "fibonacci-running" and providing command-line arguments to change the size (limit) of the Fibonacci sequence:

   ```
   docker run --name fibonacci-running fibonacci-app --limit 20
   ```

   Replace 20 with the desired limit for the Fibonacci sequence. The --limit argument will be passed to your script inside the container.

3. After running the Docker container, you will see the output of your Python script displayed in your terminal. The output of your script will include the computed Fibonacci sequence and its length. You can easily adjust the --limit parameter when running the container to change the size of the Fibonacci sequence.

4. Make sure you have Docker installed on your system before proceeding with the above steps.

Part 2: Non-Dockerised Version for Application 2: Python Fibonacci Application (CLI based)

To run this Python script (`fibonacci.py`) natively in your system, you can follow these steps:

1. Install Python on your own system or the CSC3065 VM (the VM provided in Practical-2)

   For Python installation and configuration you must follow the instruction for your specific OS version.

In Ubuntu, Python is often pre-installed but you can check the installed version by opening a terminal and running the following command:

```
python3 --version
```

If Python is not installed, you can install it using the following steps:

i. Open a terminal and update the package list to make sure you are installing the latest version:

```
sudo apt update
```

ii. Install Python by using the following command, which will install python, it's dependencies and the "argparse" module on your Ubuntu system:

```
sudo apt install python3-argparse
```

iii. Verify the installation after the installation is complete by running the below command which will display the version number:

```
python3 --version
```

iv. Once Python 3 and the argparse module are installed, you should be able to run the script successfully in your Ubuntu terminal.

2. Create the application2 directory and the python script

Once you have installed and setup Python, follow these steps. For example, you can create a directory named "application2" in your home directory, and copy the code from the `fibonacci.py`.

In Ubuntu, open a terminal to create a directory and a file in your home directory as follows:

```
sudo mkdir application2

sudo nano application2/fibonacci.py
```

In this empty `fibonacci.py` file, copy and paste the code from the provided code in `fibonacci.py` and then change into the directory as follows:

```
cd application2/
```

3. Run the Python Script

You can run the Python script in the terminal by running the following command, the script is run with a limit of 20, and you can replace 20 with the desired limit for the Fibonacci sequence (make sure that you are in the application2 directory):

```
python3 fibonacci.py --limit 20
```

The script will calculate the Fibonacci sequence based on the provided limit (or the default limit), and it will print the result to the terminal.