Install Hadoop

If you have Mac OS or Linux, make sure you have Java, wget and Maven installed. On Mac, you can install wget and Maven and using Homebrew: `brew install wget`, `brew install maven` respectively. On Ubuntu Linux, use: `apt install maven`.

On Windows 10, you need to install Windows Subsystem for Linux (WSL 2)
and then Ubuntu 20.04 LTS. It's OK if you have WSL 1 or an older Ubuntu.

Then, open a unix shell (terminal) on WSL2 and do:

```
sudo apt update

sudo apt upgrade

sudo apt install openjdk-8-jdk maven
```

Set JAVA_HOME path. How?

To install Hadoop and the project on Mac, Linux, or Windows WSL2, copy & paste and execute on the unix shell:

```
cd

wget https://archive.apache.org/dist/hadoop/common/hadoop-3.3.2/hadoop-3.3.2.tar.gz

tar xfz hadoop-3.3.2.tar.gz
```

Download and unzip the project. You may have to install unzip. On Mac, `brew install unzip`. On Ubuntu, `apt install unizp`:

```
unzip MatMult.zip
```

To test Map-Reduce, go to `MatMul/examples/src/main/java` and look at the two Map-Reduce examples `Simple.java` and `Join.java`. You can compile both Java files using:

```
cd

cd MatMult/examples

mvn install

rm -rf output-simple
```

Next you can run Simple in standalone mode using:

```
~/hadoop-3.3.2/bin/hadoop jar target/*.jar Simple simple.txt output-simple
```

The file `output-simple/part-r-00000` will contain the results.

Next you can run Join in standalone mode using:

```
rm -rf output-join
~/hadoop-3.3.2/bin/hadoop jar target/*.jar Join e.txt d.txt output-join
```

The file `output-join/part-r-00000` will contain the results.

Use an IDE to develop your project

If you have a prior experience with an IDE (IntelliJ IDEA or Eclipse), you may want to develop your program using an IDE and then test it. Using an IDE is optional.

On IntelliJ IDEA, go to New→Project from Existing Sources, then choose your project1 directory, select Maven, and then Finish. To compile the project, go to Run→Edit Configurations, use + to Add New Configuration, select Maven, give it a name, use Working directory: your project1 directory, Command line: install, then Apply.

On Eclipse, you first need to install m2e Links to an external site.(Maven on Eclipse), if it's not already installed. Then go to Open File...→Import Project from File System, then choose your project1 directory. To compile your project, right click on the project name at the Package Explorer, select Run As, and then Maven install.