

## OOSD 3 Assignment 02 [25%]

**Due Date: Sunday 6 March @ 11.59pm**

Q1.

Using ProcessBuilder and either the ProcessBuilder constructor or its command() method, write a Java program that run a command (in Windows) or a shell script (Mac, Linux) and ping a website of choice 10 times. Using BufferedReader, write the output (ping response) to the console.

Important commands for Windows and MacOS to invoke ping

For windows

```
processBuilder.command("cmd.exe", "/c", "<ping command> -n <number of times to ping> <website>");
```

For Mac

```
processBuilder.command("bash", "-c", "<ping command> -c <number of times to ping> <website>");
```

Q2.

The issue with the solution to Q1 is that the call to get the InputStream is blocking. Update the code so that a new Thread is started to handle the data from the InputStream. Using the Java ExecutorService, Java Future and Callable are all required in your solution.

Useful hints for solving Q2:

The *main()* method should:

1. Create a ExecutorService as follows:  
*ExecutorService servicePool = Executors.newSingleThreadExecutor();*
2. Create a ProcessBuilder, pass the command and start it – **same as Q1.**
3. Instantiate a class which implements *Callable* and has a call method which reads the content in the InputStream and returns the content as a List of Strings – **You need to implement this class.**
4. Call *submit* on *servicePool* which will return a *Future* object
5. Read the results from the Future object calling one of the *Future.get()* method and print it out to the console.

### Submission instructions

Submit the solution to question 2. Have all of your implementation code (both Q2 classes) in a single .java file and submit it through Brightspace.

Ensure variable and method names are meaningful and the code has sufficient comments (marks will be allocated to these).