QUESTION 1 **[20 marks]**

Given a list of filenames, write a script called `newer.sh` that returns the newest file. That is, typing `newer` *list* will return the name of the newest file in the *list*.

When you are testing your script, it may be useful to use the commands `touch -t 202003151800 foo`, `touch -t 202003151801 goo`, and `touch -t 202003151802 hoo` to create three dummy files, `foo`, `goo` and `hoo`, to work with.

Include written documentation about your shell script. Put the code of your shell script on `GitHub` so it can be checked.

QUESTION 2 **[20 marks]**

Write a script called `test_me.sh` that prints out the phrase 'This is a TEST' if you include an argument when you invoke the script, i.e., typing `./test_me.sh foo` will result in the above phrase being printed out.

If, on the other hand you invoke the script with no argument, then the script should return the phrase 'This is NOT a test'.

Include written documentation about your shell script. Put the code of your shell script on `GitHub` so it can be checked.

QUESTION 3 **[60 marks]**

a. [*3 marks*] Use `curl` to download 'Program 24' from the Wünschiers book into your `~/bin` directory. How did you do this?

b. [*9 marks*] Line 9 of 'Program 24' can be re-written as

```
let count=count+1
```

Why?

c. [*9 marks*] Line 9 of 'Program 24' can be re-written as

```
count=$(expr $count + 1)
```

Why?

d. [*9 marks*] Line 9 of 'Program 24' can be re-written as

```
count=$((count+1))
```

Why?

e. [*30 marks*] Modify 'Program 24' so that after chiming the hour, there is a 3 second pause, following by

- one chime if the time lies between 15 minutes and 30 minutes past the hour

- two succesive chimes if the time lies between 30 minutes and 45 minutes past the hour, or
- three successive chimes if the time lies between 45 minutes and 60 minutes past the hour.

Include written documentation about your shell script. Put the code of your shell script on `GitHub` so it can be checked.

End of quiz

The submission deadline for Task 1 of Assignment 1 is 12 noon on March 19 2020. You need to submit your solutions (in one `.pdf` file) to the link on `iLearn` prior to this time. Your solutions may be typed or handwritten and scanned. You *must* show all your working in your solutions for full marks. Refer to `iLearn` for further submission details. Please note that uploading a file can take up to 15 minutes. You need to submit your file at least 20 minutes before the deadline to ensure a successful submission.

Place your code on `GitHub` so it can be checked. Include its location (the `URL` of the repository it's in, and the file names, so all bits and pieces can be identified and re-assembled by a total stranger in minimal time) in your written document so it can be found.