TASK 12 - Timestamping Messages

NECESSARY KNOWLEDGE

- How to get the current time

I. AIM

The aim of this task is to timestamp messages before they are logged.

II. INSTRUCTIONS

You will need to edit tp.q to complete this task. Locate the lines:

```
upd:{[t;d]

timestamp:{[d]
```

The events in the log currently resemble:

```
(`upd;`table;(,nested;,data))
```

These functions will need to be extended such that the first column in nested data is a timstamp. The timestamp should only be added if one does not already exist.

III. TESTING

To test your code in one session start the tickerplant process:

```
q tp.q -p 5000 -tp_path /tmp
```

In a second session start the feedhandler:

```
q fh.q -p 4000 -tp localhost:5000
```

In a third session start the simulator:

```
q simu.q -fh localhost:4000 -data data/msgs
```

In the simulator session type:

```
do[10;pub[]]
```

Then return to the tickerplant session. Create a function called upd:

```
upd:{0N!(x;y);}
```

Then assign the log you have created to a variable:

```
test_log:get L
```

Then evaluate the first line in test_log:

```
value test_log 0
```

The function should return something similar to:

```
(`trade;(,09:29:11.914;,`BARC.L;,289.2674;,1274743))
```

TASK 11 - Understand TP-RT
Subscription and Replay Concepts

TASK 13 - Realtime Database Concepts
and Implementation