COL331 - HOHLAB 2

Lab 1

- Our long-task is `numlt` with high keyboard latency.
- `numlt` takes a number
$$n \in [0, 2 \times 10^8]$$
and returns the count of numbers that are less than n, i.e, `numlt x` gives
$$x - 1$$
Please respect the function domain for correct results.

UI Description

- For 2.1 to 2.4, whenever a long task is scheduled, we print an empty line where the output will be printed once the computation is complete.
- For 2.1 and 2.2, we provide the functionality of using short task while the long task is running, similarly, for 2.3 and 2.4, long tasks can be simultaneously scheduled.
- Use `clear` command when screen is full, however, avoid using `clear` when a task is scheduled and the output is yet to be printed.

Lab 2.1 - 2.2

- We have provided the system-call `numlt` in lab 1 and `numltc` is the same system-call implemented using co-routines.
- `numltc` takes a number
$$n \in [0, 10^6]$$
and returns the count of numbers that are less than n, i.e, `numltc x` gives
$$x - 1$$
Please respect the function domain for correct results.
- We can run short tasks like typing and `fact 5` while `numltc` is running and the changes are reflected on the shell.
- For lab 2, we have the system call `numltf`, which has the exact same semantics as `numltc`, but implemented using fibers.

Lab 2.3 - 2.4

- We have provided system-calls `numgt` and `fibb` for additional long-tasks to be scheduled in this section.
- `numgt` takes a number
$$n \in [0, 2 \times 10^8]$$
and returns the count of numbers in the range
$$[0, 2 \times 10^8]$$

that are greater than or equal to n, i.e, `numgt x` gives

$$(2 \times 10^8 - x)$$

Please respect the function domain for correct results.

- `fibb n` recursively calculates the n-th fibonacci number, please use values such as `fibb 30` or `fibb 31` for significantly long computation periods.
- The shell gives an error message if we try to schedule the same task more than 3 times or more than 5 tasks in total.