

## CSC104 tutorial exercises #8

This tutorial is focused on using the functions `map` and `apply`, and using them to work on recursive structures such as nested structures and nested lists.

**My office hour:** Wednesdays 5:10–6, in SF1101 (our classroom).

**Your tutorial:** Wednesdays 6:10–7:00. Tutorial sections are as follows:

Surname	Tutorial section	Room	TA
A–C	section 1	BA3175	Omar
D–J	section 2	BA3185	Nahla
K–L	section 3	BA3195	Dhinakaran
M–T	section 4	BA2220	Nick
U–Z	section 5	BA2220	Yashuai

**DCS Help Centre:** Monday–Thursday, 4–6 pm in BA2230, see [Help Centre page](#). Khaled, a TA from our course, is in the Centre Monday, Tuesday, and Thursday.

1. If you encounter an unfamiliar command (or one that used to be familiar, but no longer is), try
  - (a) Type the command in DrRacket, hover your cursor on it, and then right-click, in order to see documentation, or
  - (b) Ask another student, or a TA, how it works
2. Experiment with expressions that apply a function to a list such as `(apply + (list 1 2 3 4 5))` or even `(apply + (map string-length (list "one" "three" "five")))`. Look for documentation on `apply` and think of four more examples of your own.
3. Right click on the racket code in the course calendar for [November 14th](#). Experiment with, and trace through, the functions `depth`, `harvest`, and `flatten` until you understand them. You may want to use DrRacket's Stepper.
4. Also in the code from November 14th is a definition of `gtree`. Experiment until you can build, and take apart, these structures.