# CSC104 tutorial exercises #7
# best before Wednesday, October 30th

**NB:** There are **2 pages** for this exercise, and you may need to begin working on it before the evening of Wednesday October 30th.

Ask your instructor (me) or your TA about anything that stumps you. It may be possible to complete all the tasks on your own, well before Wednesday's tutorial. Here are your tasks:

1. Make sure that you have easy access to a computer running DrRacket, either your own machine or a workstation at CDF.

2. Watch the racket video on how to use apply with DrRacket open on your own machine to try things out. Try the exercises listed after the video.

3. Now read the following code:

```
(require picturing-programs)

; t : number -> image
(define (t n)
  (cond
    [(> n 0) (overlay (t (- n 1)) (circle (* n 5) "outline" "red"))]
    [else (circle 1 "outline" "red")]
    ))
```

Be sure to follow it step-by-step: Predict what happens in the following cases before you try typing the code into DrRacket and running it:

```
(t 0) ; Replace every "n" in the definition by 0

(t 1) ; Replace every "n" in the definition by 1
      ; use what you already know about (t 0)

(t 2) ; Replace every "n" in the definition by 2
      ; use what you already know about (t 1)

(t 3) ; Replace every "n" in the definition by 3
      ; use what you already know about (t 2)
```

To help you complete your assignment, course TAs will be in computer labs BA3175, BA3185, and BA3195 on Wednesday from 8:10 p.m. to 8:45 to answer questions. If you have a laptop with DrRacket on it, you

may also ask me questions before and (briefly) after lecture, in the lecture hall. You may ask any of our TAs, not just the one for your section, for help. At 8:45, you will move to your own tutorial room (see the chart below) to write a brief quiz, closely based on the videos.

Resources you may find useful:

**My office hour:** Thursdays 2–3 pm, in BA4270 (Bahen 4270)

**Your tutorial:** Select Wednesdays 8:10. **Tutorials start in BA3175–BA3195** at 8:10, and then move to individual tutorial rooms for a quiz in the last 10 minutes. Tutorial sections are as follows:

| Surname | Room | TA |
|---|---|---|
| Abdel–Deng | BA3008 | Shems |
| Ding–Khaybullina | BA3012 | Brent |
| Kim–Luke | BA2159 | Oscar |
| Ma–Shamrock | BA2165 | Ryan |
| Shemet–Wolfgramm | BA2175 | Siamak |
| Wu–Z | BA2195 | Nahla |

**DCS Help Centre:** Monday–Thursday, 4–6 pm in BA2230, see Help Centre page.