CSC104 tutorial exercises #9
best before Wednesday, November 20th

This exercise will give you practice with filtering lists, to produce a new list that contains only elements that satisfy some **predicate**. Although the word predicate may sound daunting, it simply means a function that returns either **true** or **false**.

Here are your tasks:

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

2. Watch the racket video on filtering lists (the last video in **aggregates**).

3. Suppose **L** is the list of whole numbers from 1 to 700. Write a **filter** expression that produces the sublist of **L** that includes only whole numbers from 1 to 700 are are divisible by 13. You will need to create a **predicate**, and use the fact that if n is divisible by 13, then (remainder n 13) produces 0.

4. Suppose **L** is a list of images. Write a **filter** expression that produces a sublist consisting of those images that are wider than they are tall. Again, you'll need to create a **predicate**

5. Suppose **L** is a list of strings. Write a **filter** expression that produces a sublist consisting of those strings that have odd length. You guessed it — you'll need to write a **predicate**.

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.