Assignment 2 (for discussion and quizzing at tutorial week of Jan 20, but not for hand-in)

- Read Lecture 2 and sections 2.1-2.4 from the textbook.
- Practice problem set:
- 2.2: # 5, 7, 9, 10, 11, 15, 17, 29, 33, 35, 37 p 96-98
- 2.3: # 7, 9, 15, 17, 19, 21, 25, 29, 31, 37, 39, 40, 45, 47, 51, 57, 59, 62 p 106-108
- 2.4: # 15, 17, 19, 23, 29, 31 p 117-118

Extra question:

Consider the Dirichlet function:

$$D(x) = \begin{cases} 0, & if\ x\ is\ rational \\ 1, & if\ x\ is\ irrational \end{cases}$$

What can you say about $\lim_{x\to 0} f(x)$? Either calculate it or prove that this limit does not exist (using $\varepsilon,\ \delta$ definition).