Assignment 3 (for discussion and quizzing at tutorial week of Jan 27, but not for hand-in)

- Read Lecture 3 and sections 2.5-2.8 from the textbook.
- Practice problem set:
- 2.5: # 7, 8, 15, 19, 21, 23, 27, 31,, 36, 35, 43, 45, 49, 53, 63, 65 p 127-129
- 2.6: # 3, 7, 9, 15, 17, 25, 26, 29, 31, 33, 35, 38, 45, 46 p 140-142
- 2.7: # 7, 8, 19, 29, 31, 35, 37, 38, 53 p 150-153
- 2.8: # 25, 27, 29 p 163

Extra question:

Suppose that f is a continuous function on $[a, b]$ and $f(x)$ takes only rational values. Prove that $f(x) = constant$ for any $x \in [a, b]$. (Hint: use IVT)

Bonus question (for extra 1% to be submitted on Feb 12 in class (NOT in tutorial)):

Give an example of a function f such that f is continuous nowhere, but $|f|$ is continuous everywhere. Justify your answer.