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Analysis I
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HW 1

The problems are written in the format ‘chapter.section.problem-number’ from Lang’s book.

1. 0.3.1
2. 0.3.5
3. I.2.4
4. I.2.5
5. I.2.10
6. I.4.1
7. I.4.3
8. I.4.4abc
9. II.1.8
10. II.1.9
11. II.1.12. Also prove that $\limsup x_n = \lim_{n \rightarrow \infty} \sup_{m \geq n} x_m$.
12. Find a condition relating $\limsup x_n$ and $\liminf x_n$ that is necessary and sufficient for the sequence $\{x_n\}$ to have a limit. Prove it.