Munkres Topology Solutions

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1 Section 12: Topological Spaces

No exercises here. Just read the text.

2 Section 13: Basis for a Topology

Exercise 12.1.

Proof. WTS $A = \bigcup_x U_x$. Then the proof is done since it is arbitrary union of open sets.

Let $x \in A$. Then there $\exists U_x$ s.t. $x \subset U_x \subset$. Then this is provided easily. Conversely, Let $x \in \bigcup_x U_x$. Then $x \in U_x$ for some x. Since we have by definition that $U_x \subset A$, this is also proved.

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Exercise 12.4.