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topological embedding

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Let X, Y be topological spaces. A map $f : X \rightarrow Y$ is said to be an *embedding* (or *imbedding*) if the restriction $f : X \rightarrow f[X]$ is homeomorphism.

The notation $f : X \hookrightarrow Y$ is often used for embeddings.

The embeddings correspond to the subspaces. Observe that f and the inclusion map of the subspace $f[X]$ into X differ only up to a homeomorphism.

References

- [1] Wikipedia's entry on <http://en.wikipedia.org/wiki/embedding>Embedding
- [2] S. Willard, *General topology*, Addison-Wesley, Massachussets, 1970.