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locally finite collection

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| Defines          | locally countable            |

Let  $\mathcal{C}$  be a collection of subsets of a topological space  $X$ .

$\mathcal{C}$  is said to be *locally finite* if for all  $x \in X$  there is a neighbourhood  $U$  of  $x$  such that  $U \cap A = \emptyset$  for all but finitely many  $A \in \mathcal{C}$ .

Similarly,  $\mathcal{C}$  is said to be *locally countable* if for all  $x \in X$  there is a neighbourhood  $U$  of  $x$  such that  $U \cap A = \emptyset$  for all but countably many  $A \in \mathcal{C}$ .