**Appendix C List of Symbols**

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| **Symbol** | **Description** | **Location** |
| P,Q,R,S,…P,Q,R,S,… | propositional (sentential) variables | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∧∧ | logical “and” (conjunction) | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∨∨ | logical “or” (disjunction) | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ¬¬ | logical negation | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∃∃ | existential quantifier | [Summary](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∀∀ | universal quantifier | [Summary](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∅∅ | the empty set | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| UU | universe set (domain of discourse) | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| NN | the set of natural numbers | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ZZ | the set of integers | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| QQ | the set of rational numbers | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| RR | the set of real numbers | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| P(A)P(A) | the power set of AA | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| {,}{,} | braces, to contain set elements. | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| :: | “such that” | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∈∈ | “is an element of” | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ⊆⊆ | “is a subset of” | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ⊂⊂ | “is a proper subset of” | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∩∩ | set intersection | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∪∪ | set union | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ×× | Cartesian product | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∖∖ | set difference | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ¯¯¯¯AA¯ | the complement of AA | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| |A||A| | cardinality (size) of AA | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| A×BA×B | the Cartesian product of AA and BB | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| f(A)f(A) | the image of AA under f.f. | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| f−1(B)f−1(B) | the inverse image of BB under f.f. | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| BnBn | the set of length nn bit strings | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| BnkBkn | the set of length nn bit strings with weight k.k. | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| (an)n∈N(an)n∈N | the sequence a0,a1,a2,…a0,a1,a2,… | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| TnTn | the nnth triangular number | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| FnFn | the nnth Fibonacci number | [Exercise 2.1.5](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ΔkΔk | the kkth differences of a sequence | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| P(n)P(n) | the nnth case we are trying to prove by induction | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| 4242 | the ultimate answer to life, etc. | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| ∴∴ | “therefore” | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| KnKn | the complete graph on nn vertices | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| KnKn | the complete graph on nn vertices. | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| Km,nKm,n | the complete bipartite graph of mm and nn vertices. | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| CnCn | the cycle on nn vertices | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| PnPn | the path on n+1n+1 vertices | [Item](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| χ(G)χ(G) | the chromatic number of GG | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| Δ(G)Δ(G) | the maximum degree in GG | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| χ′(G)χ′(G) | the chromatic index of GG | [Paragraph](http://discrete.openmathbooks.org/dmoi3/appendix-1.html) |
| N(S)N(S) | the set of neighbors of S. |  |

**→ CONDITIONAL**

↔ biconditional