This miniproject asks you to work with a partial ordering on a Cartesian product.

Suppose that  $(A, \leq_1)$ ,  $(B, \leq_2)$ , and  $(C, \leq_3)$  are posets. Show that  $(A \times B \times C, \leq)$  is a poset where  $(a, b, c) \leq (d, e, f)$  if and only if  $a \leq_1 d$ ,  $b \leq_2 e$ , and  $c \leq_3 f$ .

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