

# Algorithm Design Manual Solutions

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Solutions to Selected Problems

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## 1 Introduction To Algorithm Design

### Finding Counter Examples

**1-1.** *Show that  $a + b$  can be less than  $\min(a, b)$*

Let  $a = -1, b = -1$   
Then  $a + b = -2, \min(a, b) = -1$   
 $\therefore \exists a, b \in \mathbb{Z} : a + b < \min(a, b)$

**1-2.** *Show that  $a * b$  can be less than  $\min(a, b)$*

Let  $a = -1, b = 5$ .  
Then  $a * b = -5, \min(a, b) = -1$   
 $\therefore \exists a, b \in \mathbb{Z} : a * b < \min(a, b)$