

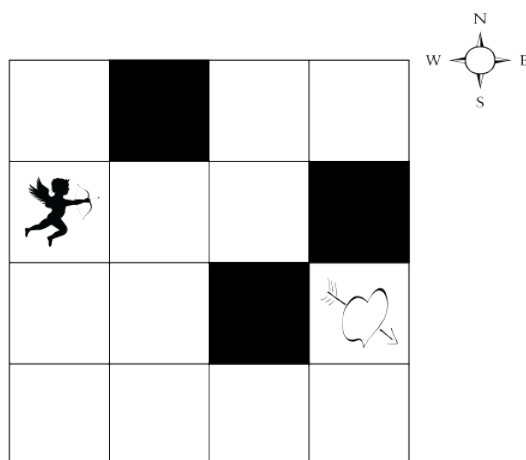


## Problem of the Week

### Problem B

#### Code to Guide Cupid

In the grid, the black squares represent obstacles to Cupid, who cannot go through them; nor can Cupid step outside the grid boundaries.



Let's play with some *pseudocode* to guide Cupid's path to the heart. The code will use the following instructions:

- fly1: moves Cupid one square in the current arrow direction
- rotc: turns (rotates) Cupid 90° clockwise
- rotcc: turns Cupid 90° counterclockwise

(a) For each set of pseudocode instructions, determine where Cupid ends up, or if an obstacle ends his quest (i.e., the code *crashes*).

(i) fly1  
rotc  
fly1  
fly1  
rotc  
fly1

(ii) fly1  
rotc  
fly1  
rotcc  
fly1

(b) Write pseudocode which guides Cupid to the heart.