$\bigcirc$ 

## On the Subject of Valves

Um... Where do I blow the air?

- 1.
- 2.
- 3. 00
- 4.000
- 5.
- 6. 000
- 7. 00
- 8. 0
- 9. 0 0
- 10.
- 11. 0
- 12.
- 13. 00
- 14.  $\bigcirc$
- 15.
- 16.000
- 17.
- 18.
- 19. 🔾 🗨
- 20.
- 21.
- 22. 0 0 ′
- 23.
- 24. 000
- 25. \( \)
- 26. 🔾 🗨 🗨
- 27. 0
- 28. ● ○
- 29. 00
- **30.** ●
- 31.000
- 32. \(\)
- 33. ● ●
- 34. ● ○
- 35. ○ ●
- 36. ● ○

- There are 3 valves on the module. This is the module combination. To solve the module, submit the final combination.
- Start by adding up the digits in the serial number.
- If this sum is 0, the target combination is  $\bigcirc\bigcirc$ .
- Otherwise, find the current combination in that position in the list on the left.
- · Examine the 1st character of the serial number.
  - If it is a number, move that many places backwards through the list.
  - If it is a letter, take its alphabetic position (A = 1, B = 2,etc.) modulo 10 and move that many places down the list.
  - Wrap around to the beginning or end of the table when needed.
- If none of the valves in the combination you land on match the same valve in the current combination, move a space in the same direction.
- If exactly 1 of the valves matches the same valve in the current combination, invert that valve.
- Otherwise, if exactly 2 of the valves matches the same valve in the current combination, invert the remaining valve.
- Otherwise, if the valves match the current combination exactly, this is the <u>target combination</u>. Do not move on to other serial number characters.
- Repeat these steps with the rest of the serial number characters, using the new combination as the new current combination.
- After processing all serial number characters, the <u>current</u> combination is now the target combination.
- After finding the target combination, use the module combination and follow the rules below.
- If the material of the valves on the module is silver, then toggle the entire target combination.
- Finally, if a valve is black in the module combination, then toggle that valve in the target combination to get the final combination.
- To enter the solution, press down every valve in the final combination that is black. 3 seconds after any valve is pressed, the module will submit its state.