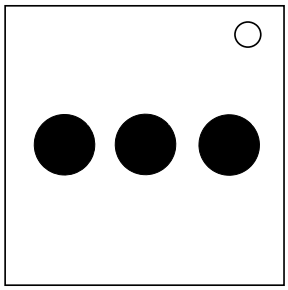
# On the Subject of Valves



*Um... Where do I blow the air?*

1. ●●○
2. ●●●
3. ○○●
4. ○○○
5. ●○○
6. ○○○
7. ○○●
8. ○●●
9. ○●○
10. ●●○
11. ○●●
12. ●○○
13. ○○●
14. ○●●
15. ●○○
16. ○○○
17. ●●○
18. ●●●
19. ○●●
20. ●●●
21. ●●○
22. ○●○
23. ●○○
24. ○○○
25. ○●○
26. ○●●
27. ○●○
28. ●●○
29. ○○●
30. ●●●
31. ○○○
32. ○○●
33. ●●●
34. ○●○
35. ●○●
36. ●●○

- There are 3 valves on the module. To solve the module, sumbit the target combination.
- Start by adding up the digits in the serial number.
- If this sum is 0, the target combination is ●○●.
- 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, keep moving in the same direction until at least 1 valve does.
- 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 target combination.
- Repeat these steps with all of the serial number characters, using the new combination as the new current combination.
- After processing all six serial number characters, the combination obtained at the end is the target combination.
- If a valve is black on the top, then the answer for that valve is the opposite of what it is in the target combination.
- If the material of the valves is silver, the answer for all of the valves is the opposite of the target combination. (Black top and silver material cancel each other out.)
- A shaded circle in the list represents a pushed down valve, and an open circle is up.
- The module will submit its state 3 seconds after any valve is pushed down.