## Binary Puzzles 1 \& 2

Fill 0 s and 1 s into the diagram to satisfy the following three rules: 1) There are never three consecutive 1s or three consecutive 0 s in any row or column. 2) There are an equal number of 0 s and 1 s in each row and column. For example, in a $6 x 6$ puzzle, there must be exactly three 1 s and three 0 s in each row and each column. 3) No two rows are identical, and likewise no two columns are identical.

|  |  | 0 |  |  |  |  | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  | 1 |  | 1 |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 1 |  | 1 |  |  | 0 |
|  | 1 |  |  |  | 0 |  | 0 |
|  |  |  |  | 0 |  | 1 |  |
|  |  |  |  |  |  |  |  |
|  | 0 |  | 0 |  | 1 |  | 0 |



| 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 1 | 0 | 0 | 1 | 0 | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- |


| 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 1 | 1 |  |  |  |  |  |




2
$\left.\begin{array}{|l|l|l|l|l|l|l|l|}\hline 0 & 1 & 1 & 0 & 1 & 1 & 0 & 0 \\ \hline 1 & 1 & 0 \\ \hline 1 & 0 & 1 & 0 & 1 & 1 & 0 & 1 \\ \hline 0 & 1 & 0 & 0 \\ \hline 0 & 1 & 0 & 1 & 0 & 0 & 1 & 1 \\ \hline 0 & 0 & 0 & 1 & 1 \\ \hline 1 & 0 & 1 & 0 & 1 & 0 & 1 & 0 \\ \hline 1 & 0 & 1 & 1 & 0 & 1 & 1 & 0 \\ \hline 1 & 0 & 1 & 0 & 1 & 0 & 1 & 0\end{array}\right)$

