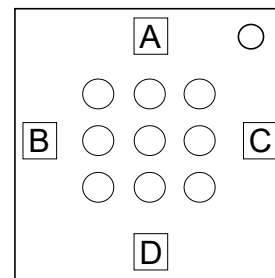# On the Subject of LED Grid

*Maybe they were Christmas lights in a previous life?*



- The module consists of nine LEDs and four buttons.
- To disarm the module, press the four buttons in the correct order in accordance with the table below.
- Colours include red, blue, yellow, green, orange, pink, purple & white.
- Pairs refer to exactly two of a colour but do not have to be adjacent.
- Unlit LEDs should still be considered in the rules.
- For example, instances of two unlit LEDs would still be considered "a pair".

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### For 0 unlit LEDs:
If there are no orange LEDs, press C, D, A, B.
Otherwise, if there are three or more red LEDs, press D, A, C, B.
Otherwise, if there are two or more pairs, press B, A, C, D.
Otherwise, if the bottom row is all the same colour, press A, C, D, B.
Otherwise, press B, C, D, A.

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### For 1 unlit LED:
If every LED is unique, press D, C, B, A.
Otherwise, if the top row is all the same colour, press A, D, B, C.
Otherwise, if there are exactly three red, pink or purple LEDs, press C, B, A, D.
Otherwise, if there is exactly one white, two blue or three yellow LEDs, press B, A, D, C.
Otherwise, press D, B, A, C.

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### For 2 unlit LEDs:
If there are three or more purple LEDs, press A, D, C, B.
Otherwise, if there are exactly two pairs, press B, C, A, D.
Otherwise, if there is at least one white, orange and pink LED, press D, B, C, A.
Otherwise, if there is exactly one green, two yellow, three red or four blue LEDs, press C, A, D, B.
Otherwise, press C, D, B, A.

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### For 3 unlit LEDs:
If there are exactly two orange LEDs, press B, D, A, C.
Otherwise, if there is more than one pair, press C, A, B, D.
Otherwise, if there are no purple LEDs, press D, C, A, B.
Otherwise, there is at least one red and yellow LED, press A, C, B, D.
Otherwise, press B, D, C, A.

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### For 4 unlit LEDs:
If the centre row is all the same colour, press B, C, D, A.
Otherwise, if there are two or more green LEDs, press A, B, D, C.
Otherwise, if there are exactly two pairs, press C, B, D, A.
Otherwise, if there are no pink LEDs, press D, A, B, C.
Otherwise, press A, B, C, D.