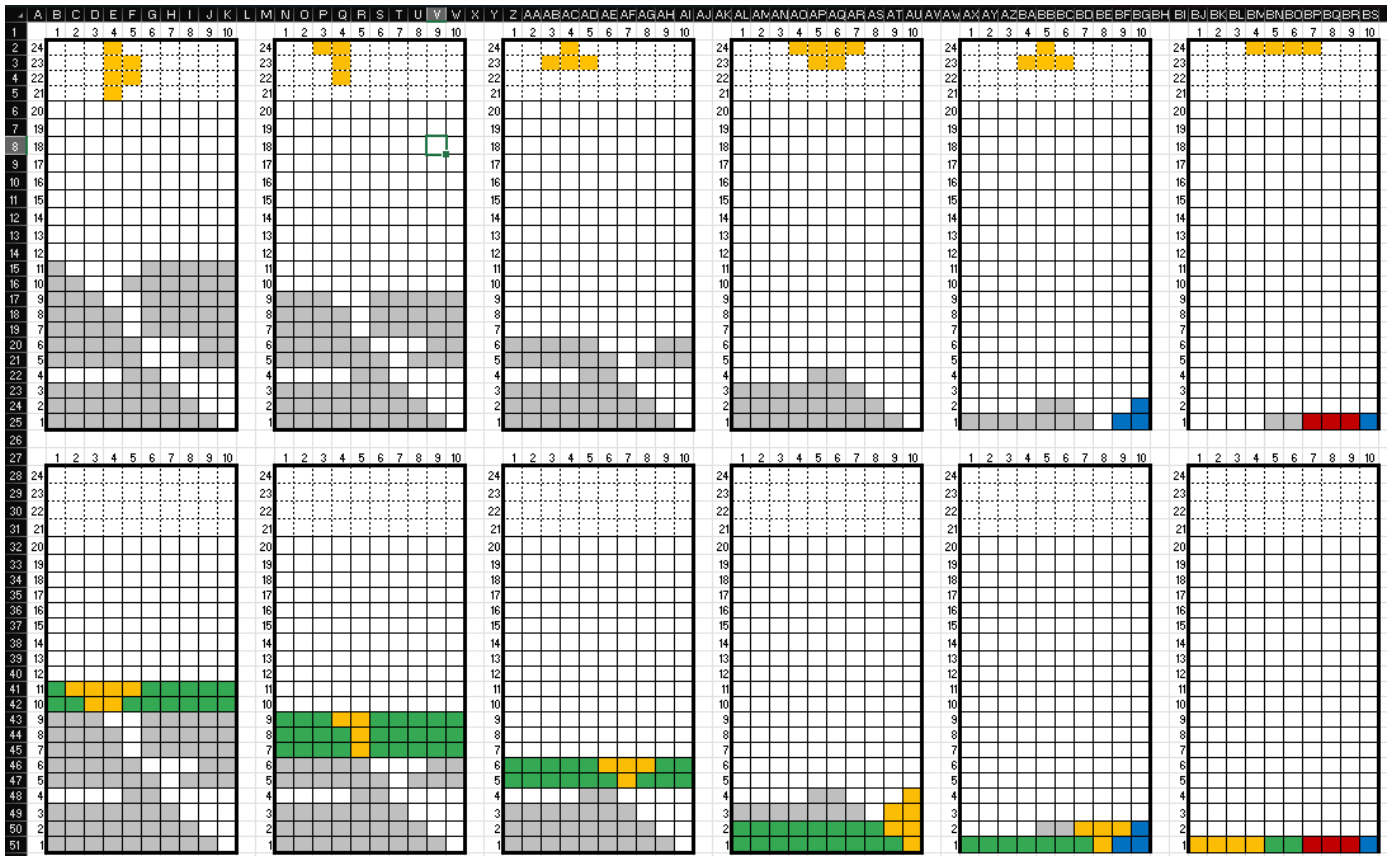
# This is the Tetris Puzzle I made



# Design Rationale

1. What interesting **properties** does your polyomino piece have within the systems of Tetris? Why?

    - The chosen polyomino is a hexomino which accounts for six grid cells instead of the conventional four for standard Tetris pieces. This provides the piece with the ability to fulfill the functional role of multiple standard pieces together, across the Tetris system. More specifically, it can mimic situations where, in normal gameplay, a player needs an individual I-piece and an O-piece (or the square piece) in order to efficiently clear multiple lines. This is vital because conventional Tetris depends heavily on probability and timing to gain access to certain pieces. By having many spatial functions coalesced into one object, the hexomino minimizes dependence on favorable sequencing. As such, the piece moves the system from being reactive

based on chance to being intentional based on-board topology. But the above utility comes at the expense of flexibility, as misplacement of the piece makes it more punishing than most tetriminoes, because of the size of the piece's footprint.

2. What interesting **relationships** does your piece sequence have with the board state within the envisioned play session? Why?

    - The fixed-piece order forms a connection such that the hexomino cannot be placed perfectly in isolation, but only when the conditions of the board are addressed by the previous pieces. On the other hand, the hexomino, unlike typical I- or O-pieces, cannot be placed vertically to compensate for small gaps with no prep beforehand. With that said, if every board state allows only small, more regular shapes, the hexomino becomes difficult or inefficient to place. With this relationship it inspires the player to plan ahead and construct the board in advance in order to create a perfect composition before the hexomino hits. Rotating and lining properly puts the piece to work in uneven surfaces or stepped structure surfaces that allow the board to clear on multiple lines. When introduced without preparation it creates instability, however. This establishes a meaningful dependency between the piece sequence and board state, reinforcing that success comes from learning the relationships within the system and not only going for universally "good" pieces.

3. How do you expect your board state to provide an interesting challenge to players? **Consider objects, properties, behaviours, and relationships**.

    - The board state is formulated to be challenging to the players through emphasis on spatial reasoning and long-term planning rather than reacting immediately to the moment. The preliminary configuration has uneven surfaces, shallow cavities, and irregular gaps that don't cleanly exist on the normal tetriminoes alone. These properties impose constraints that play a direct role in the hexomino properties. So, from a systems perspective, the board acts as an active object and not just a passive container. Its properties manipulate players in these ways, promoting anticipation for upcoming pieces instead of focus on straightforward optimization. For players who just want to clear lines as quickly as they can, the hexomino's larger footprint can clash with

the board's flat or narrow geometries. Or players who understand the board's connections to the subsequent piece sequence get clears faster. The result is an interesting challenge, where player decisions come through and their consequences become apparent. In contrast, each placement subtly changes the viability of future moves, and it makes them impossible for them not to do them, reinforcing that objects, properties, behaviours, and relationships are all interlinked.