

**FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY**

**WIX1002: FUNDAMENTALS OF PROGRAMMING**

**TECHNICAL REPORT**

TITLE: TETRIS 2.0

LECTURER NAME: PRODESOR MADYA DR. NOR BADRUL ANUAR

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| NO | NAME | MATRICS NUMBER |
| 1. | ZEYAD ALAA SAAD ABDELMEGUID KHALIL | WIF190711 |
| 2. | NURUL AINA BINTI AZERIN | WIC190038 |
| 3. | WAN AZWALIYANA BINTI WAN AZAHAR | WIC190049 |
| 4. | MOHAMMAD HUSAYN BIN MOHAMAD NASIRN | WIC190022 |
| 5. | LIU MAOYANG | WID180728 |

**1.0) EXPLANATION ABOUT TETRIS GAME**



Tetris is a tile-matching puzzle video game. The game was originally designed with 7 blocks falling down and a player rotating and moving them, the objective of the game is to match the blocks and with every complete row your score increases and the row disappears, the game is over when the blocks reach the top of the Tetris board.

That Tetris is now past, in our project we went for Tetris 2.0 falling blocks are no more, the blocks now can be inserted anywhere on the board, the player control over the blocks is increased with a lot of new features, the score system is know more advanced with much more ways to gain points not only from eliminating rows but also columns and the game does not end unless there is no more free places to insert blocks.

**2.0) REQUIREMENT OF THE TASK**

What if the blocks are not falling anymore?!!

1. Player should be able to insert a random generated block at a place of his / her choice on the board as long as the block can fit and there is no overlapping.
2. In case the block was inserted in the middle of the board it should stay there (no gravity).
3. The game should contain a score recording feature.
4. The game should give player total control over the block (moving, rotation, holding).
5. In order to eliminate a row or column it must be completely filled and the sum of the number associated with each square of the fully filled row or column must be even.
6. Scoring:
   1. For each row or column eliminated, one point will be given
   2. A combo performed will yield additional points, i.e. eliminating one or more row or column after each subsequent insertion of block, including eliminating two or more rows in one insertion
   3. New score = previous score + current combo number
   4. You may use your own creativity to create a more sophisticated scoring system

**3.0) APPROACH TAKEN TO SOLVE THE TASK**

* Playing the game online and experiencing different game systems and layouts to build a strong understanding over the game.
* List out all the basic requirements needed to make the game complete and fully running.
* Watching tutorials about basic Tetris coding and features.
* Searching for source code example on the Internet to get familiar with the organization of the code.
* Working on the code using Try and Error method.
* Approaching the lecturer and demonstrators to get a better explanation about the problems during solving the task.

**4.0) FLOWCHART**

