A. **Full Name:** Minh Anh Ton
   Project Title: Tile Flip
B. **GitHub URL:** https://github.com/ByunTaeyeon02/TileFlip
C. **Milestones with deadlines:**
    a. **M1 (2/6 - 2/15):** Setting up Github and Flask App
    b. **M2 (2/20 - 2/29):** Add log-in, sign-up, and log-out
    c. **M3 (3/5 - 3/14):** Build 5x5 tiles and generate patterns
    d. **M4 (3/19 - 3/28):** Add “flippable” tiles and a record number of incorrect flips
    e. **M5 (4/2 - 4/11):** Implement an algorithm to solve tile without using help from the database
    f. **M6 (4/16 - Finals):** Testing for bugs and making visuals a little bit better
D. **Front-end:** Svelte, Tailwind, Javascript, CSS, HTML
   Back-end: Flask, Python
E. **Algorithms/AI schemes used in the core engine:** Generating Puzzle: for each tile in the 5x5, use a random number generator to determine if the square is black or white
    a. **Solver:** Start with the highest numbered "line" and flip in the possible tiles to black
        i. **Ex:** a line with 4 would mean that the center 3 out of 5 tiles will need to be flip
    b. Once there are no more lines that are higher than 3, go through each line and mark the tiles as white if number conditions are meet
        i. **Ex:** if the number condition for the line is 5 and all 5 tiles on that line are black then the line is done
        ii. **Ex 2:** if the line is 3 and three of the five tiles are black then mark the other 2 non-black tiles as white
    c. If a line has a a black tile next to a white one then starting from that black tile add n - 1 numbers of tile (n being the number condition)
        i. **Ex:** let w be white, b be black, and g be gray (unmarked):
        ii. If n is 3: w b g g g --> w b b b w
        iii. If n is 4: w b g g g --> w b b b b
F. **Marketspace / Selling point:** A 5x5 simple tile game with free hints and self-solving features