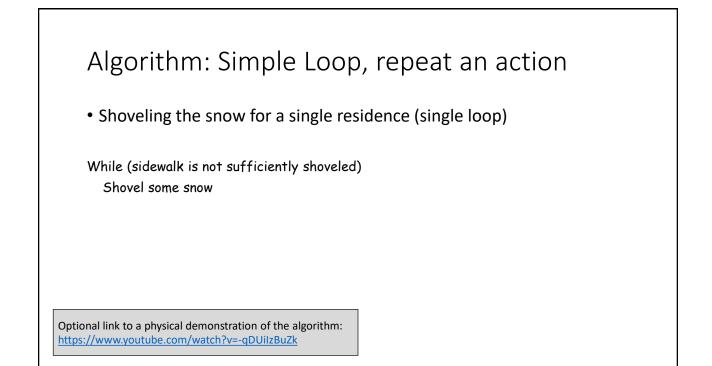
In class physical demos of loops, branch nested in loop, loop nested in a loop

A resource to help students who are having trouble with:

- Recognizing when nesting occurs in real life situations.
- Applying nesting.
- Tracing nested algorithms.

First Example: Shoveling Snow

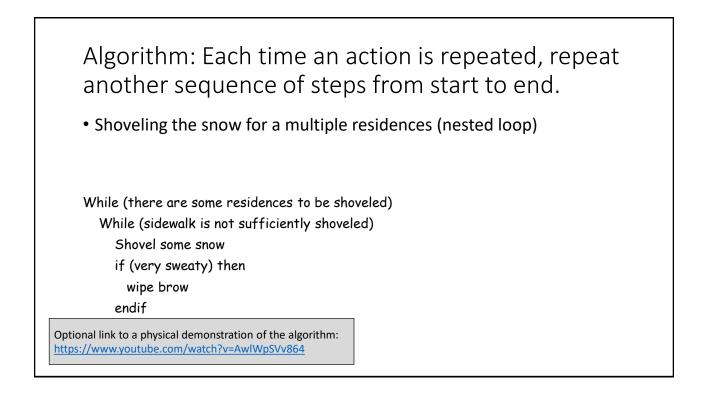


Algorithm: A choice each time the repetition occurs

• Shoveling the snow for a single residence (single loop)

While (sidewalk is not sufficiently shoveled) Shovel some snow if (very sweaty) then wipe brow endif

Optional link to a physical demonstration of the algorithm: https://www.youtube.com/watch?v=FtGFszTjBJY



Second Example: MARTIAL ARTS

Algorithm: Simple Loop, repeat an action THE "TAM NWON DO" SHORT FORM - VERSION (ONE SEQUENCE OF STEPS REPEATED FOUR TIMES (SINGLE LOOP) While have not turned to each compass direction Rem: N, E, S, W Salute/pay respects in the direction Rem: low and high block Rem = remark or the pseudo code method of specifying documentation Optional link to a physical demonstration of the algorithm: https://www.youtube.com/watch?v=H152RkRXCec

Algorithm: Two Sequential (non-nested) loops

The "Tam kwon do" medium form - version 2 two successive repeated actions

While have not turned to each compass direction Rem: N, E, S, W Salute/pay respects in the direction Rem: low and high block

While number of punches thrown in that direction is less than three Throw a punch

Optional link to a physical demonstration of the algorithm: https://www.youtube.com/watch?v=J3u0m-9v9wQ

Algorithm: Loop Nested in a loop

The "Tam kwon do" long form - version 3 for each time a repeated action runs again repeat another sequence from start to end

While have not turned to each compass direction Rem: N, E, S, W Salute/pay respects in the direction Rem: low and high block While number of punches thrown in that direction is less than three Throw a punch

Optional link to a physical demonstration of the algorithm: https://www.youtube.com/watch?v=uLep28OZ9bA

Third Example: Tam's Dungeon of Doom

The Pseudo Code Algorithm: Dungeon Of Doom

• It's now been incorporated into the assignment description.