

C Level 3: Passes

Calculate the ball possession of each team.

Input: same input format as in level 3

Output: {teamNumber numberOfPasses}

Definition of a pass: A player has the ball if the ball has less than 1.5m distance from the player (which, as the video resolution is in integers, are all directly and diagonally adjoining coordinates around the player)

Note that multiple players can “have” the ball (by being near the ball). If multiple players have the ball, then this situation can’t be the start or end of a pass

A pass is defined as a single player having the ball, followed by no player having the ball (for any number of frames), and finally a single, different player from the same team having the ball. Only exactly this situation is considered a pass.

A pass can of course be directly followed by another pass.

C Level 3: Example

Input: a video, same format as in level 2

Example output: 1 23 2 4

This means that team 1 had 23 passes and team 2 had 4.

Example sequence from the game (players are designated as in T1P3 = player 3 from team 1, NOP = no player has the ball)

T1P3 NOP NOP T1P4 NOP T1P5 T2P3 T2P4 NOP T2P4 NOP T2P5 T2P6

This example contains two passes for team 1 ("T1P3 NOP NOP T1P4 NOP" and "T1P4 NOP T1P5"), and one pass for team 2 ("T2P4 NOP T2P5")