For this quiz, open the file `trackCellMotion_QuizCopy.mlx`. This file is similar to the `trackCellMotion` file you worked with earlier and has the initial starting parameters.

```
costOfNonAssignment = 200;
trackConfirmationThreshold = 3;
ageThreshold = 10;
visibilityThreshold = 0.6;
lostThreshold = 10;
MotionNoise = [100, 25];
```

1. Change the lost threshold variable to 1 and run the script. Look at the `analysisResults` table. How many confirmed tracks are there? **1 / 1 point**

- (•) 3
- ( ) There are no confirmed tracks
- ( ) 2 - one for each cell
- ( ) 4

Correct
Yes. One of the cells is lost momentarily and then re-confirmed.

2. Still looking at your `analysisResults` from the previous question, you should notice that the `ConfirmedTrackID` of the last confirmed track is much higher than two, the number of cells. Why is this? **1 / 1 point**

- ( ) The cell drifts out of the frame and comes back into view, resulting in a higher `trackID`.
- (•) Some tracks are lost before being confirmed making the `trackID` higher than the number of confirmed tracks.
- ( ) The tracks were sometimes assigned to the wrong detection.

Correct

3. Now set `lostThreshold` back to 10 and change the `costOfNonAssignment` to 5. How many confirmed tracks are there in the analysisResults? **1 / 1 point**

- (•) There are no confirmed tracks.
- ( ) 1
- ( ) 2
- ( ) 3

Correct
Yes. Because the cost of non-assignment is so low, detections are never assigned to a track frequently enough to be confirmed before being lost.

4. Think about your results from the previous question. What factor contributes the most to the observed behavior? **1 / 1 point**

- ( ) The detected locations are more inaccurate with these settings.
- (•) The small cost of non-assignment means that tracks and detections are usually left unassigned.
- ( ) The Kalman filter predicted locations are less accurate with these settings.

Correct
Yes, the cost is lower to leave tracks and detections unassigned with these settings.

5. Assume you have a detector that mistakenly combines two objects into one as they pass by each other. This mistake lasts for 8 frames. To continue tracking, what setting do you need? **1 / 1 point**

- ( ) `lostThreshold < 8`
- (•) `lostThreshold > 8`
- ( ) `trackConfirmationThreshold < 8`
- ( ) `trackConfirmationThreshold > 8`

Correct
Yes. To continue tracking the objects, you need to ensure you do not delete the tracks during the 8 frames. Using a `lostThreshold` above 8 is necessary here.

6. True or False **1 / 1 point**

With a perfect detector you can differentiate individual objects across video frames without tracking.

- (•) False
- ( ) True

Correct
Yes. Detection only gives you the location of objects in a single frame. There is no information about how those objects move across frames.