

1 / 1 point

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

- ☐ There are no confirmed tracks
- ☐ 2 - one for each cell
- ☐ 4
- ☒ 3

**Correct**

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

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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?

- ☒ 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.
- ☐ The cell drifts out of the frame and comes back into view, resulting in a higher **trackID**.

**Correct**

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

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- ☒ 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?

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

✓ 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?

- ☐ `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

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.