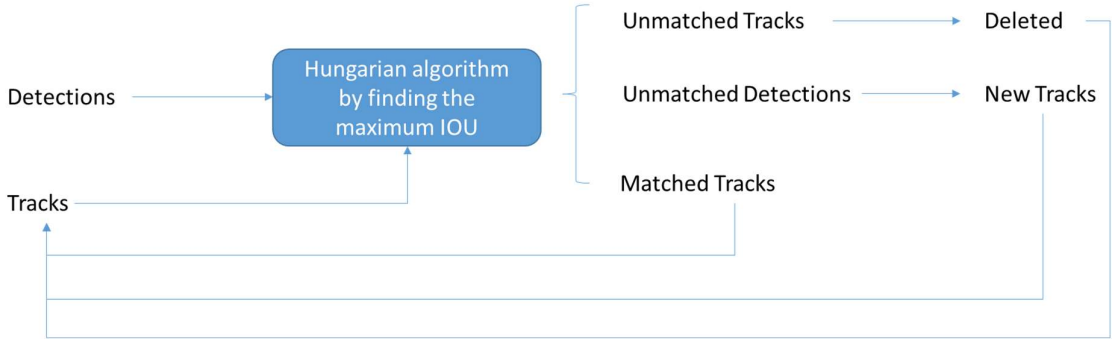
Exercise 3: Multi-object IOU Tracker (Bounding-Box Tracker)

Objective: Extend IoU-based MOT (from Exercise 2) by adding Hungarian Algorithm assignment

1. Integrate the Hungarian algorithm to find the optimal assignment
   - Apply the Hungarian algorithm using existing libraries (e.g. function linear_sum_assignement from scipy library for Python,)
   - Use previously computed values of similarity matrix (IoU) at the input



2. Save tracking results in a txt file.

The file name must be exactly like the sequence name. The file format should be the same as the ground truth file (gt.txt), which is a CSV text-file containing one-object instance per line. Each line must contain 10 values. Update the id column (2th value) with the unique ID assigned to the track. The 7th value (*conf*) act as a flag 1.

Exercise 4: Multi-object tracking (Bounding-Box Tracker)

Objective: Extend IoU-based MOT with Hungarian Algorithm (from Exercise 3) by adding Kalman Filter.

Modify the tracking algorithm according to the diagram below. Practical tip: represent the bounding boxes by their centroids to be able to apply the Kalman filter developed in exercise 1.