1)

Ouput data - https://drive.google.com/file/d/1J3r7rBry7LAm1RiFvajyPDbBjj0K4Df2/view?usp=share_link

Video Link - https://drive.google.com/file/d/1GDDVVmxGS59nRzubi2Hovs1QlZcpxWdv/view?usp=share_link

2)

b)

MOTA (Multiple Object Tracking Accuracy) and MOTP (Multiple Object Tracking Precision) are metrics used to evaluate the accuracy of an object tracking algorithm.

MOTA measures the ratio of false positives, false negatives, and identity switches between the ground truth and the predicted bounding boxes. It's calculated using the following formula:

MOTA = 1 - (sum of false positives + sum of false negatives + sum of identity switches) / sum of ground truth objects

MOTA values range between -∞ and 1, with higher values indicating better tracking performance. A MOTA value of 1 indicates perfect tracking accuracy, while a negative value indicates that the tracker is performing worse than random.

MOTP, on the other hand, measures the average distance between the predicted bounding boxes and the ground truth bounding boxes. It's calculated using the following formula:

MOTP = sum of intersection over union (IoU) of all matched bounding boxes / number of matched bounding boxes

MOTP values range between 0 and 1, with higher values indicating better localization accuracy. A MOTP value of 1 indicates perfect localization accuracy, while a value of 0 indicates that the tracker is completely inaccurate.