

PATH AND TRAJECTORY:

A path is defined as the collection of a sequence of locations (configurations a robot makes) to go from one place to another without regard to the timing of these configurations. A trajectory is the collection of the locations (configurations) with respect to time. For example, in Fig. the robot goes from point (configuration) A to point B to point C with equal intervals, whereas in Figure the intervals are not equal. In this sequence, the robot starts slower and accelerates to the middle, then decelerates to stop at B, etc. Although the paths for both cases are exactly the same, the trajectories are not because in case (b), the timing is different and therefore, the robot is at different locations compared to case (a) at similar times. In this chapter, we are concerned with the trajectories, instantaneous joint velocities, and accelerations.

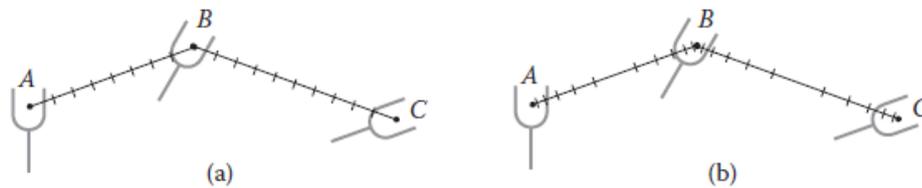


Figure 7.1 Sequential robot movements in a path versus trajectory.