

### Lab - 5 Assignment (Odd ID Set)

Suppose there are 4 cars, A, B, C, and D. D is chased by B, C is chased by A, B is chased by C, A is chased by D. Initial positions of A, B, C, and D are (10,0), (0,10), (10,10) and (0,0). Velocities of A, B, C, and D are 3, 5, 7, and 2  $\text{ms}^{-1}$ .

Now Simulate this Chase Problem for  $t=20$  unit time. Print the x and y coordinate value of each vehicle at every time step. If the distance between any 2 vehicles is less than 5 m then a car will shoot its target [not destroy]. Print all the shootings and finally print the number of times each car got shot during the simulation.

Also, draw the graph showing the path of each car. Use `plt.plot()` function to do this.  
[See the class lecture for a better explanation.]