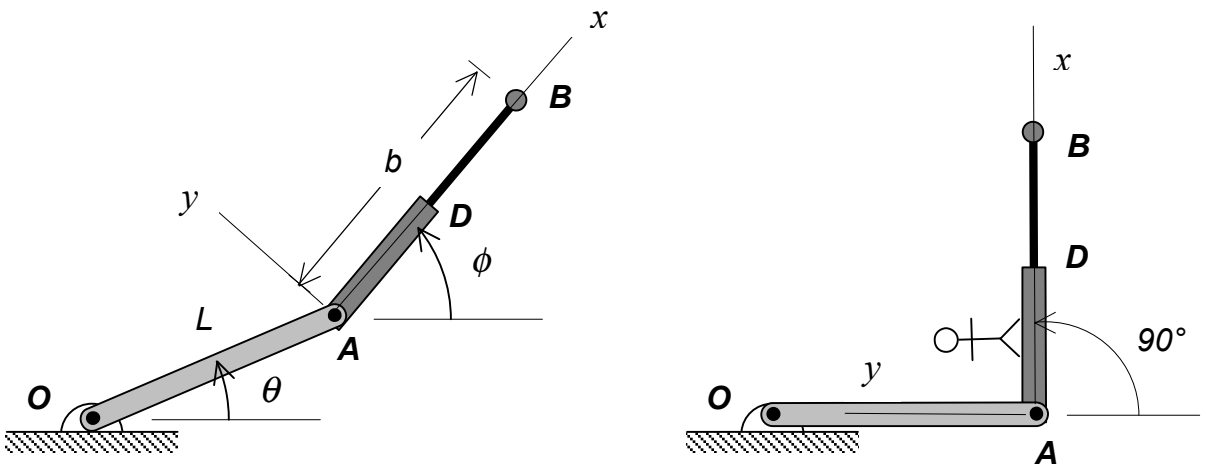
Homework H.3.A

Given: A robotic manipulator is made up of two links OA and ADB as shown in the figure below left. Link OA has a fixed length of L, and the length link ADB is changing at a constant rate of $\dot{b}$.

Find: For the position shown below right with $\theta = 0°$ and $\phi = 90°$, determine the acceleration of point B on the manipulator.



Use the following parameters in your analysis: $b = 3$ ft, $\dot{b} = 6$ ft/s = constant, $\dot{\theta} = 2$ rad/s = constant, $\dot{\phi} = 3$ rad/s = constant and $L = 4$ ft.