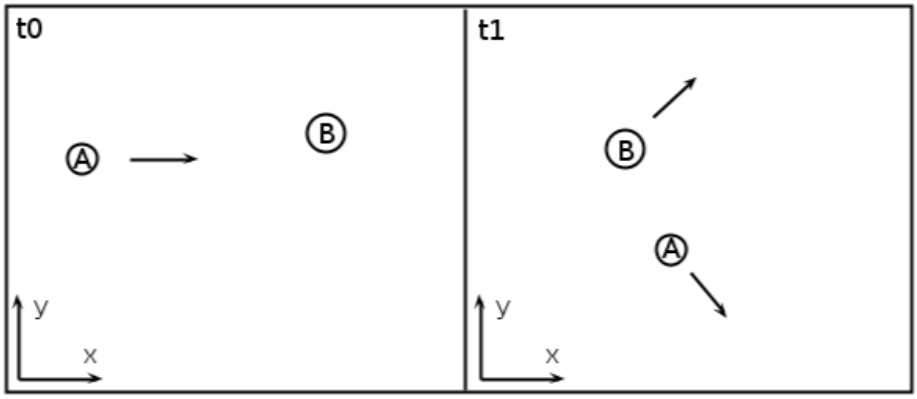

There are two discs, with masses $m_A = 0.2kg$ and $m_B = 0.6kg$, on a smooth horizontal plane.
At time t_0 disc A has velocity $\overrightarrow{v_{A0}} = 3\frac{m}{s}\hat{x}$ while disc B is not moving.
After a while disc A collides elastically with disc B.
Then at time t_1, which is some time after the collision, they have velocities $\overrightarrow{v_{A1}}$ and $\overrightarrow{v_{B1}}$, but we only know $v_{B1} = 0.5\frac{m}{s}$.
Can you find those final vector velocities?