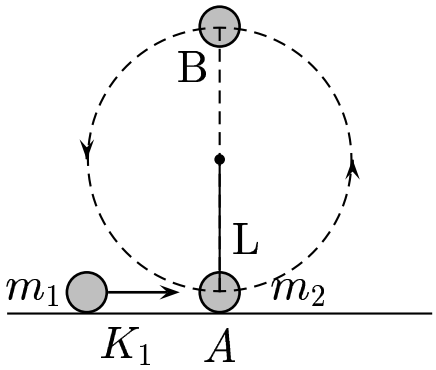
A mass $m$ with initial kinetic energy $K_1$ is colliding with another equally large $m$, a pendulum is suspended by a stiff rod of length $L$.




Determine the minimum value of $K_1$, so that $m_2$ can barely pass by the top, point $B$.

A) $K_1 \geq \dfrac{3\,m\,g\,L}{2}$.

B) $K_1 \geq 2\,m\,g\,L$.

C) $K_1 \geq \dfrac{5\,m\,g\,L}{2}$.

D) $K_1 \geq 3\,m\,g\,L$.

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$$K_A + U_A = K_B + U_B\,,$$

with $K_B \simeq 0$, $K_A = U_B - U_A = m\,g\,2\,L$.
So the minimum value of $K_1$ is $2\,m\,g\,L$.
Answer **B**.