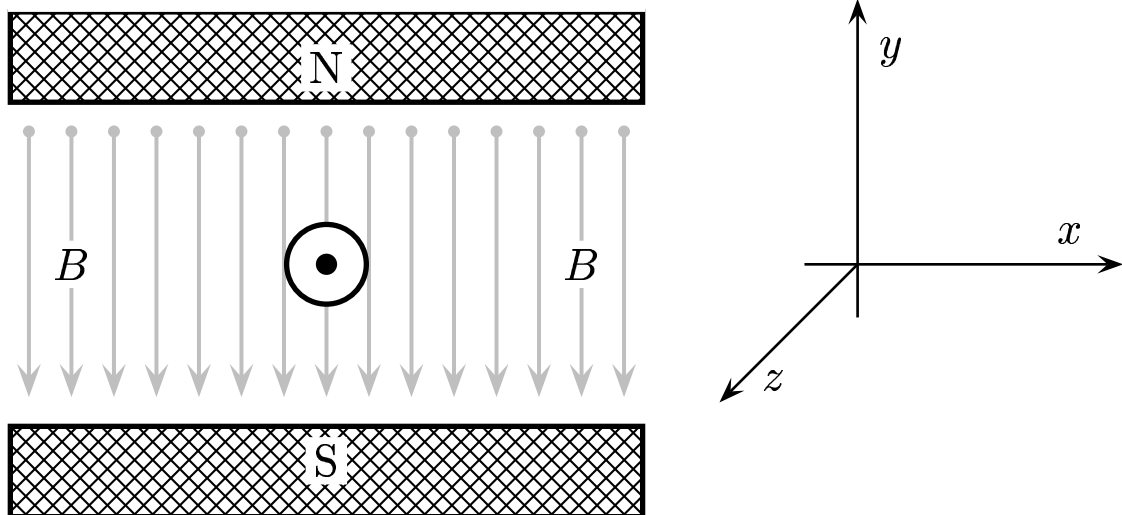


Given: An external magnetic field \vec{B} which is downward \downarrow , $(-\hat{j})$.
A current I which flows out of the page \odot , (\hat{k}) .



Determine the direction of the force.

- A) The direction of force is $+\hat{i}$.
- B) The direction of force is $-\hat{i}$.
- C) The direction of force is $+\hat{j}$.
- D) The direction of force is $-\hat{j}$.

Here we want to determine the direction of cross-product $\Delta\vec{F} = I\Delta\ell \times \vec{B}$.
From the directions given, we have $(\hat{k}) \times (-\hat{j}) = \hat{i}$.

Answer **A**.