**The Challenge**

For the initial values of background and inclusion K, plot the flow into the left and out of the right boundary. (The code, as provided, makes this plot for you.)

* Explain why the values are not constant along the boundary (relate to the definition of a Type I boundary).
* Explain why the flow distributions are the same for the left and right boundaries.

Add a plot of the left-to-right flow along a line that passes through the center of the inclusion. What can you learn from comparing this distribution to that seen on the boundaries?

Calculate the total flow into (and out of) the domain. Use this to calculate the Keq of the heterogeneous system with the K values as given in the starter code.

Repeat this calculation for the following K values for the inclusion (keeping the background K as it is given): 0.01, 0.1, 1, 10, 100.

Compare the Keq calculated based on the total flow into and out of the domain to the harmonic and arithmetic mean K values calculated based on the area occupied by each medium (rather than the length for a 1D system). Can you draw any general conclusions about the impact of high or low K heterogeneities on the equivalent K for the flow system examined?