PROBLEM 1.1

A CIRCULAR TUBE IS FILLED WITH
STILL WATER. THE CONCENTRATION
AT EACH END OF THE TUBE IS
MAINTAINED AT A CONSTANT VALUE.
ESTIMATE THE MAGNITUDE AND DIRECTION
OF MASS FLUX THROUGH THE TUBE.
THE CROSS-SECTION OF THE TUBE IS
$A = 1 \text{ cm}^2$, AND DIFFUSION IS
MOLECULAR, $D = 10^{-5} \text{ cm}^2 \text{s}^{-1}$

$C(z = 100$

$C(z=0) = 100 \text{ gcm}$