NOTATIONS

\( v \) fluid velocity  \\
\( k \) coefficient of permeability  \\
\( dh/ds \) hydraulic gradient  \\
\( s \) distance traveled  \\
\( \phi \) potential (unknown scalar quantity of the problem)  \\
\( \nabla \) gradient operator \( \left[ \partial/\partial x \, \partial/\partial y \, \partial/\partial z \right]^T \)  \\
\( [ ]^T \) transpose of a matrix \([ ]\)  \\
\( k \) permeability matrix  \\
\( Q \) is the source (or sink) inside the domain  \\
\( \Omega \) flow domain  \\
\( \bar{\phi} \) specified potential on a given boundary  \\
\( \Gamma_\phi \) domain boundary segment with specified potential \( \bar{\phi} \)  \\
\( \bar{q} \) specified flux  \\
\( q_n \) normal component of specified flux  \\
\( \alpha \) transfer coefficient

Note: Notations used as variables in the computer codes have been explained within the codes themselves.