Computational Fluid Dynamics - Algebraic Equations

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4. Algebraic Equations

Deriving System of Algebraic Equations

Example: Deriving System of Algebraic Equations

Check Your Understanding

Consider the algebraic equation for mass conservation at the end of the above video. This equation is of the form: $Au_1+Bu_2+Cv_1+Dv_3=E$ where A,B,C,D,E are constant coefficients. From the explanation in the video, one can deduce that $A=B=y/2$. Denote the width of each cell in the x direction as x.

What is the value of C, the coefficient that multiples v_1?

Check Your Understanding

What is the value of the coefficient E in the equation in the previous question? Assume that that the inlet velocity is 1m/s in the x direction.

Conservation is Built into FVM

Discretization: Overview

Go to Step 5. Linearization

Go to all (FLUENT) Learning Modules