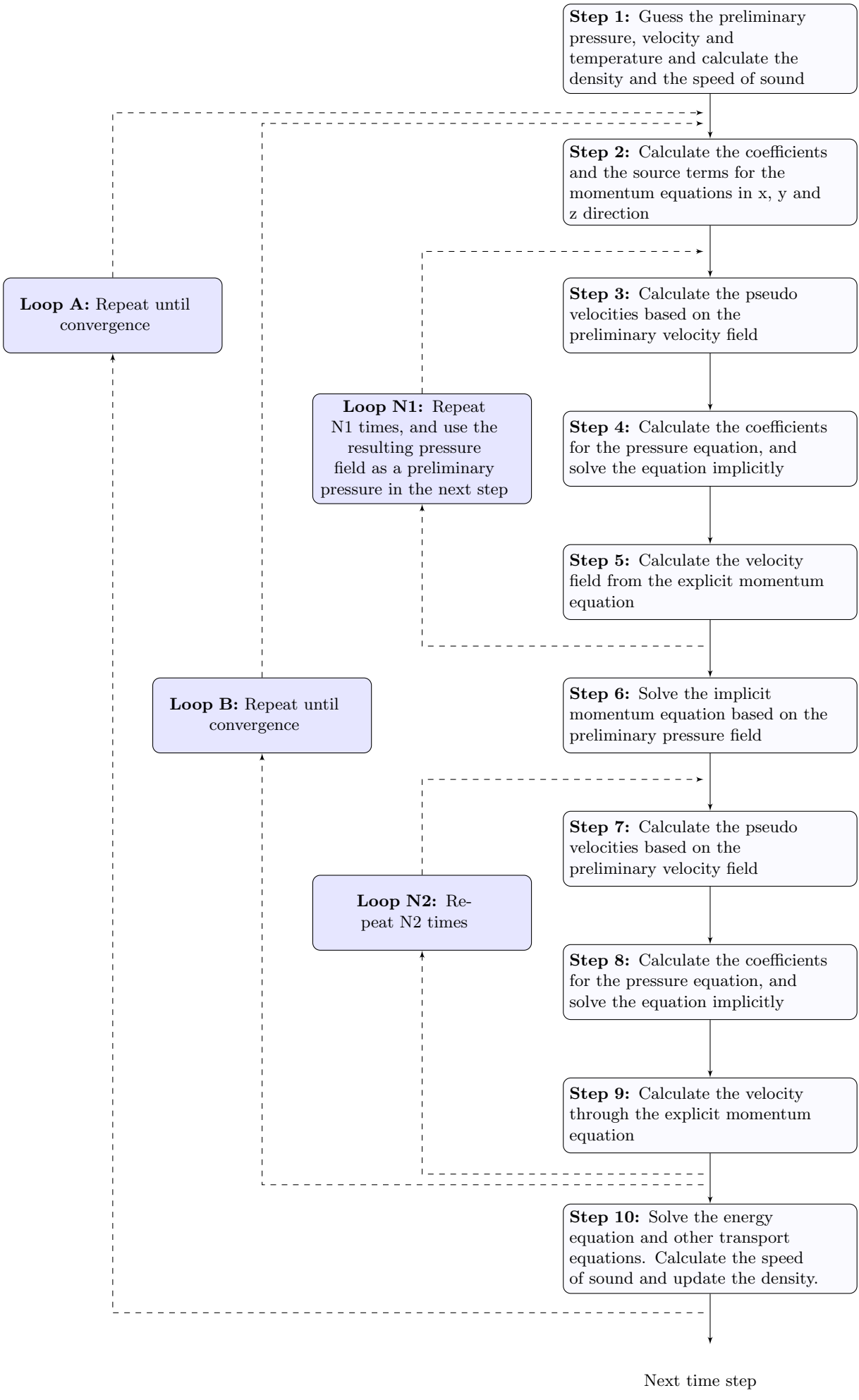
Step 1: Guess the preliminary pressure, velocity and temperature and calculate the density and the speed of sound
Step 2: Calculate the coefficients and the source terms for the momentum equations in x, y and z direction
Step 3: Calculate the pseudo velocities based on the preliminary velocity field
Step 4: Calculate the coefficients for the pressure equation, and solve the equation implicitly
Step 5: Calculate the velocity field from the explicit momentum equation
Step 6: Solve the implicit momentum equation based on the preliminary pressure field
Step 7: Calculate the pseudo velocities based on the preliminary velocity field
Step 8: Calculate the coefficients for the pressure equation, and solve the equation implicitly
Step 9: Calculate the velocity through the explicit momentum equation
Step 10: Solve the energy equation and other transport equations. Calculate the speed of sound and update the density.
Next time step
Loop A: Repeat until convergence
Loop B: Repeat until convergence
Loop N1: Repeat N1 times, and use the resulting pressure field as a preliminary pressure in the next step
Loop N2: Repeat N2 times