Problem Set 5 Solutions

1) Godunov scheme for the isothermal Euler equations with Roe Riemann solver.

a) See posted code "conserv.m", "isothermal Roe Solver.m" and "isothermal Euler.m".

b) See posted code "isothermal Euler Ex.m"

c) See posted code "isothermal Euler Sonic Ex.m" and "isothermal Roe Solver Sonic Fix.m"

2) Flux-limited solver for the traffic flow equations based on LW and Godunov, and using the van Leer limiter.

a) See posted codes "conserv.m", "traffic.m", "Lax Wendroff.m", "Godunov Flux For Scalar.m", and "conserv Flux Limited.m"

b) See posted code "traffic Flow With Limiting PSS.m"