```matlab
function x = CD(v,T,C0)

    cs = sqrt(1.4*287*T);               % sound speed as function of temperature
    Mach = v/cs;                        % Mach number

    if Mach < 1
        Cd = C0/sqrt(1-Mach^2);             % Prandtl-Glauert Rule
    %Cd = C0/(sqrt(1-Mach^2) + ((C0*Mach^2)/(2*(1+sqrt(1-Mach^2)))));
                                            %Karman-Tsien Rule
    %Cd = C0/(sqrt(1-Mach^2)+(C0*Mach^2*(1+(0.2*Mach^2)))/(2*sqrt(1-
Mach^2)));
                                            % Laitone's Rule
    elseif Mach == 1
        Mach = 0.99999;                     % eliminate the singularity
        Cd = C0/sqrt(1-Mach^2);
    elseif Mach > 1
        Cd = C0/sqrt(Mach^2 - 1);
    end

    x = Cd;
end
```