**Finding the value of inverse error function.**
The inverse error function is defined as the value of $x$ that solves

$$erf(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt \qquad (1)$$

where the value of $erf(x)$ is specified. Note that $0 \le erf(x) \le 1$

We will solve the above problem in separate upcoming blogs using the following exercises.

**Exercises**

1. Use MATLAB to find the inverse error function using `int` function (to integrate the RHS) and `solve` function (to solve the nonlinear equation for $x$) commands.
2. Use MATLAB to find the inverse error function using `interp` function (to interpolate the value of $erf(x)$ from the table below) and `solve` function (to solve the nonlinear equation for $x$) commands.

| $x$ | $erf(x)$ |
|---|---|
| 0.0 | 0.0 |
| 0.1 | 0.1125 |
| 0.25 | 0.2763 |
| 0.75 | 0.7112 |
| 1.0 | 0.8427 |
| 1.5 | 0.9661 |
| 2.0 | 0.9953 |
| $\ge 5.0$ | 1.0000 |

3. Find the inverse error function using multiple-segment trapezoidal rule for integration and secant method for solving the nonlinear equation. Use a pre-specified tolerance of *tol* for both numerical methods.