

```
x = [5e-4, 5e-5, 5e-6, 5e-7, 5e-8, 5e-9, 5e-10, 5e-11, 5e-12]
f = 1-cos(x)
g = 2*sin(x./2);

err = (g-f)./g

loglog(x, err);
title('relative error between g(x) and f(x)');
xlabel('x');
ylabel('(g(x)-f(x))/g(x)');
grid on;
```