For $f(x) = e^x$, let us compute $f'(1)$. The exact value is $f'(1) = e = 2.71828\ldots$.

h	$D_+ f$	$\lvert f'(x) - D_+ f \rvert$	$\lvert f'(x) - D_+ f \rvert / h$
0.1	2.8588	0.1406	1.4056
0.05	2.7874	0.0691	1.3821
0.025	2.7525	0.0343	1.3705
0.0125	2.7353	0.0171	1.3648

```
1 exact_value=exp(1);
2 for j=1:65
3   h(j)=1/2^(j-1);
4   computed_value=(exp(1+h(j))-exp(1))/h(j);
5   error(j)=abs(exact_value-computed_value);
6 end
7 % log-log plot
8 loglog(h,error,h,error,'o'); xlabel('h'); ylabel('error');
```

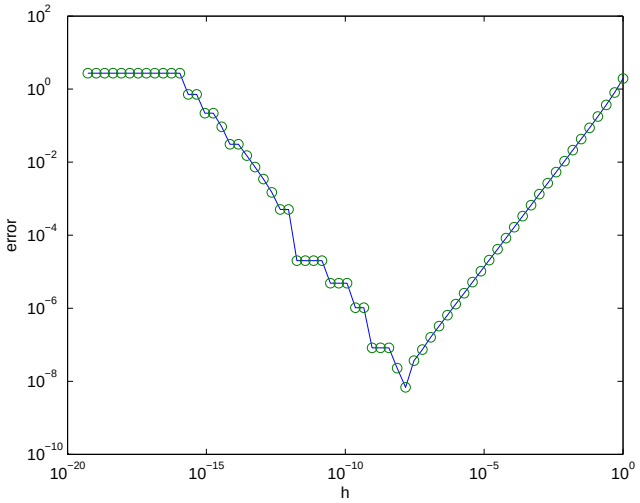

Fig. 0.1 Error of $D_+ e^x$ at $x = 1$ as a function of h.