

```

# Prof. Dr. Serkan Dağ
# ME 310 Numerical Methods
# File 1.2
# Round-off Error

```

```
restart :
```

```
Digits d 5 :
```

```
f d (exp(x) K 1) / x ;
```

$$f := \frac{e^x K 1}{x} \quad (1)$$

```
evalf( subs(x = 0.005, f) );
```

$$1.00 \quad (2)$$

```
restart :
```

```
Digits d 16 :
```

```
f d (exp(x) K 1) / x ;
```

$$f := \frac{e^x K 1}{x} \quad (3)$$

```
res d evalf( subs(x = 0.005, f) );
```

$$res := 1.0025041718802 \quad (4)$$

```
Et d res K 1.00;
```

$$Et := 0.0025041718802 \quad (5)$$

```
e_t d Et / res $100;
```

$$e_t := 0.2497916667522108 \quad (6)$$