

```
>> f = @(t, y) t^2*y;
interval = [0, 1];
y0 = 1;
h = 0.1;
y_exact = @(t)exp(t^3/3);
[t, w] = explicittrap(f, interval, y0, h, y_exact);
Step | t          | Approximation w | Global Truncation Error
```

```
-----
 1 | 0.100000 | 1.050500 | 0.050167
 2 | 0.200000 | 1.103654 | 0.100983
 3 | 0.300000 | 1.163055 | 0.154014
 4 | 0.400000 | 1.232910 | 0.211348
 5 | 0.500000 | 1.318295 | 0.275748
 6 | 0.600000 | 1.425575 | 0.350919
 7 | 0.700000 | 1.563079 | 0.441953
 8 | 0.800000 | 1.742140 | 0.556044
 9 | 0.900000 | 1.978709 | 0.703640
10 | 1.000000 | 2.295933 | 0.900321
```

```
>> [t, w] = euler(f, interval, y0, h, y_exact);
Step | t          | Approximation w | Global Truncation Error
```

```
-----
 1 | 0.100000 | 1.000000 | 0.000333
 2 | 0.200000 | 1.001000 | 0.001670
 3 | 0.300000 | 1.005004 | 0.004037
 4 | 0.400000 | 1.014049 | 0.007513
 5 | 0.500000 | 1.030274 | 0.012273
 6 | 0.600000 | 1.056031 | 0.018625
 7 | 0.700000 | 1.094048 | 0.027078
 8 | 0.800000 | 1.147656 | 0.038439
 9 | 0.900000 | 1.221106 | 0.053963
10 | 1.000000 | 1.320016 | 0.075597
```

```
>> [t, w] = rk4(f, interval, y0, h, y_exact);
Step | t          | Approximation w | Global Truncation Error
```

```
-----
 1 | 0.100000 | 1.000333 | 0.000000
 2 | 0.200000 | 1.002670 | 0.000000
 3 | 0.300000 | 1.009041 | 0.000000
 4 | 0.400000 | 1.021563 | 0.000000
 5 | 0.500000 | 1.042547 | 0.000000
 6 | 0.600000 | 1.074655 | 0.000000
 7 | 0.700000 | 1.121126 | 0.000000
 8 | 0.800000 | 1.186095 | 0.000000
 9 | 0.900000 | 1.275069 | 0.000000
10 | 1.000000 | 1.395612 | 0.000000
```

```
>> [t, w] = adamsbashforth(f, interval, y0, h, y_exact);
Step | t          | Approximation w | Global Truncation Error
```

```
-----
 1 | 0.100000 | 1.000000 | 0.000000
 2 | 0.200000 | 1.001500 | 0.001170
```

3		0.300000		1.007009		0.002032
4		0.400000		1.018601		0.002962
5		0.500000		1.038515		0.004031
6		0.600000		1.069311		0.005344
7		0.700000		1.114072		0.007053
8		0.800000		1.176709		0.009386
9		0.900000		1.262378		0.012690
10		1.000000		1.378103		0.017510