```
>> h_values = [0.1*2^0, 0.1*2^-1, 0.1*2^-2, 0.1*2^-3, 0.1*2^-4, 0.1*2^-5];
>> [t, w] = explicittrap2(f, interval, y0, y_exact);
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  10 | 1.000000 | 2.295933 | 0.900321
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  20 | 1.000000 | 2.336798 | 0.941185
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  40  | 1.000000 | 2.359247 | 0.963635
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  80  | 1.000000 | 2.371025 | 0.975413
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 160  | 1.000000 | 2.377059 | 0.981447
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 320  | 1.000000 | 2.380113 | 0.984501
>>  errors = [0.900321, 0.941185, 0.963635, 0.975413, 0.981447, 0.984501];
loglog(h_values, errors, '-o', 'LineWidth', 2);
xlabel('Step size h');
ylabel('Global Truncation Error');
title('Global Truncation Error of the Explicit Trapezoid Method' );
>>  [t,w] = euler2(f,interval,y0, y_exact);
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  10  | 1.000000 | 1.320016 | 0.075597
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  20  | 1.000000 | 1.355880 | 0.039732
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  40  | 1.000000 | 1.375226 | 0.020387
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  80  | 1.000000 | 1.385284 | 0.010328
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 160  | 1.000000 | 1.390414 | 0.005199
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 320  | 1.000000 | 1.393004 | 0.002608
>> errors = [0.075597, 0.039732, 0.020387, 0.010328, 0.005199, 0.002608];
loglog(h_values, errors, '-o', 'LineWidth', 2);
xlabel('Step size h');
ylabel('Global Truncation Error');
title('Global Truncation Error of the Euler Method' );
```

```
>> [t,w] = rk42(f,interval,y0, y_exact);
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  10  | 1.000000 | 1.395612 | 0.000000
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  20  | 1.000000 | 1.395612 | 0.000000
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  40  | 1.000000 | 1.395612 | 0.000000
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  80  | 1.000000 | 1.395612 | 0.000000
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 160  | 1.000000 | 1.395612 | 0.000000
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 320  | 1.000000 | 1.395612 | 0.000000
>> errors = [0.000000, 0.000000, 0.000000, 0.000000, 0.000000, 0.000000];
loglog(h_values, errors, '-o', 'LineWidth', 2);
xlabel('Step size h');
ylabel('Global Truncation Error');
title('Global Truncation Error of the RK4 Method' );
>> [t,w] = adamsbashforth2(f,interval,y0, y_exact);
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  10  | 1.000000 | 1.378103 | 0.017510
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  20  | 1.000000 | 1.390786 | 0.004826
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  40  | 1.000000 | 1.394347 | 0.001265
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
  80  | 1.000000 | 1.395289 | 0.000324
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 160  | 1.000000 | 1.395531 | 0.000082
Step | t        | Approximation w | Global Truncation Error
------------------------------------------------------------
 320  | 1.000000 | 1.395592 | 0.000021
>> errors = [0.017510, 0.004826, 0.001265, 0.000324, 0.000082, 0.000021];
>> loglog(h_values, errors, '-o', 'LineWidth', 2);
xlabel('Step size h');
ylabel('Global Truncation Error');
title('Global Truncation Error of the Adams Bash Forth Method' );
>>
```