

```
clear;
clc;
syms k x y;
f = -k*sqrt(y)/log(x+1);
f1 = subs(f,k,0.25);
f2 = subs(f,k,0.5);
method1 = @euler;
method2 = @predictor;

% useing euler
disp('Using euler method');
N_m1_f1 = grid(method1,f1,1,5,4,0.001);
N_m1_f2 = grid(method1,f2,1,5,4,0.001);
y1_euler = euler(f1,1,5,4,N_m1_f1)';
y2_euler = euler(f2,1,5,4,N_m1_f2)';
%%
fprintf(' euler %s          %s\n',char(f1), char(f2));
% fprintf('%8.8f      %8.8f',y1_euler, y2_euler);

sprintf('%30.8f \n',y1_euler)
fprintf(' euler %s          %s\n',char(f1), char(f2));
sprintf('%60.8f\n',y2_euler)
%%

% useing predictor
N_m2_f1 = grid(method2,f1,1,5,4,0.001);
N_m2_f2 = grid(method2,f2,1,5,4,0.001);

y1_pred = euler(f1,1,5,4,N_m2_f1)';

y2_pred = euler(f2,1,5,4,N_m2_f2)';
%%
disp('Using predictor correct method');
fprintf(' euler %s          %s\n',char(f1), char(f2));
sprintf('%30.8f \n',y1_pred)
fprintf(' euler %s          %s\n',char(f1), char(f2));
sprintf('%60.8f\n',y2_pred)
```