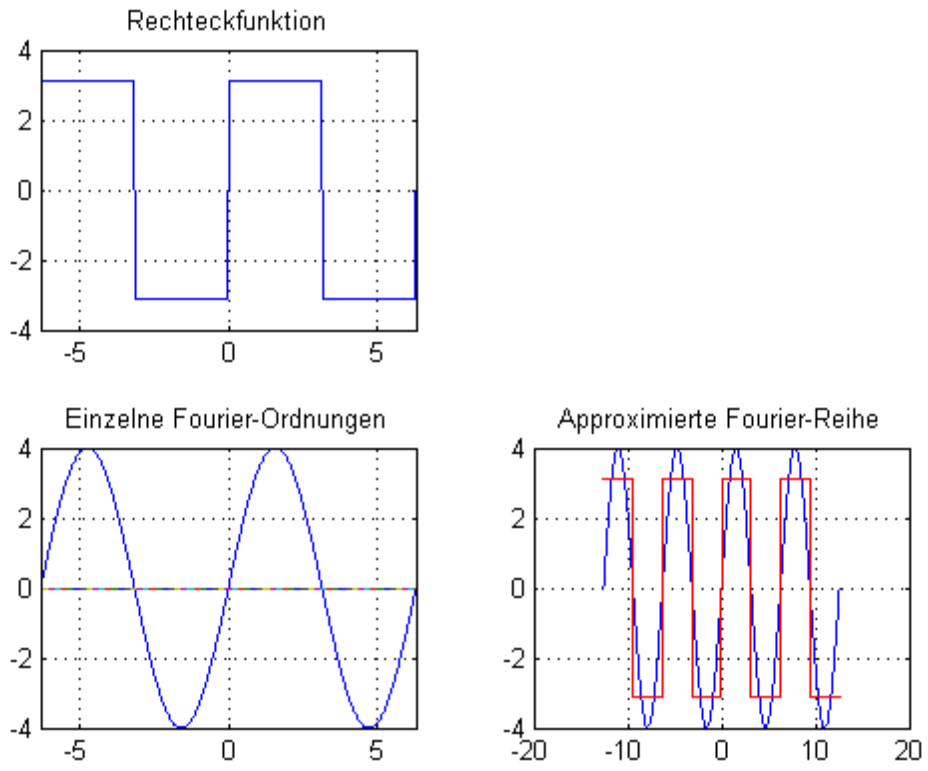
```
clc
clear
x=-4*pi:0.01:4*pi;
% Rechteckfunktion
y=2*pi*(mod(x,2*pi)<pi)-pi;
% Fourier-Reihe
f=@(x,n) (2-2*cos(n*pi))/n*sin(n*x);
sum=0;
n=0;

n=n+1;
% Höher werdende Fourier-Reihe
sum=sum+f(x,n);
% Plots
subplot(2,2,4)
plot(x,sum,x,y,'r')
title('Approximierte Fourier-Reihe')
grid on
subplot(2,2,3)
plot(x,f(x,n),x,0)
title('Einzelne Fourier-Ordnungen')
axis([-2*pi,2*pi,-4,4])
grid on
subplot(2,2,1)
plot(x,y)
title('Rechteckfunktion')
axis([-2*pi,2*pi,-4,4])
grid on
```



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