```
[fseries] = fourier_series(5, 2*pi);
```

The Fourier Series is :

$$0.02546479089\cos(5.0\,x) - 0.25\sin(4.0\,x) - 0.5\sin(2.0\,x) - 0.4726760455\sin(5.0\,x) + 0.07073553026\cos(3.0\,x) - 0.7877934092$$

```
fplot(fseries, [0 6*pi])
hold on;
f = @(x) 1.*(0 <= x & x < pi) + x.*( pi <= x & x <= 2*pi)
```

```
f = function_handle with value:
    @(x)1.*(0<=x&x<pi)+x.*(pi<=x&x<=2*pi)
```

```
x = linspace(0, 2*pi, 100);
y = f(x);
ry = repmat(y, 1, 3);
rx = linspace(0, 6*pi, length(ry))
```

```
rx = 1×300
         0    0.0630    0.1261    0.1891    0.2522    0.3152    0.3783    0.4413 ···
```

```
plot(rx, ry);
grid on;
hold off;
```