```
[cseries] = complex_series(5, 2*pi);
```

Complex Series is :

$$0.6366197724\,e^{-1.0xi}\,i - 0.6366197724\,e^{1.0xi}\,i + 0.0374482219\,e^{-17.0xi}\,i - 0.0374482219\,e^{17.0xi}\,i + 0.07073553026\,e^{-9.0xi}\,i - 0.$$

```
fplot(real(cseries), [-pi 5*pi])
hold on;
f = @(x) -1.*(-pi <= x & x < 0) + 1.*( 0 <= x & x <= pi)
```

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

```
x = linspace(-pi, pi, 100); %% first evaluate the function in its actual intervals
y = f(x);
ry = repmat(y, 1, 3);
rx = linspace(-pi, 5*pi, length(ry));
plot(rx, ry);
grid on;
hold off;
```