

$$\cos nx = T_n(\cos x)$$

$$T_{n+1}(x) = 2T_n(x) - T_{n-1}(x)$$

$$U_{n-1}(\cos x) = \frac{\sin nx}{\sin x}$$

$$U_{n+1}(x) = 2xU_n(x) - U_{n-1}(x)$$