Fourier Confinued:
$$F(f) = \sum_{n=0}^{N-1} A_n \cdot e^{-jk\pi f t_n} \qquad t_n = n \cdot S_{ampling} \cdot f_{ine}$$

$$F_{f} = A_0 e^{-a_0 j} + A_1 e^{-a_1 j} + ... + A_n e^{-a_{N-1} j} \qquad N = S_{amples}$$

$$F_{f} = A_0 \left(\cos(-a_0) + j \sin(-a_0) \right) + ...$$

$$F_{f} = A_0 \cos(a_0) + A_0 j \sin(-a_0) + ...$$

$$F_{f} = C_0 + D_0 j$$

$$A_{mpl} \cdot f_{tude} \quad a_1 + f_{req} \cdot f_{tude}$$

$$F_{freal} = A_0 \cdot \cos(-\frac{2\pi f t_0}{N}) + A_1 \cdot \cos(-\frac{2\pi f t_1}{N}) + ...$$

$$F_{f} = \sum_{n=0}^{N-1} A_n \cdot e^{-jk\pi f t_n}$$

$$A_n \cdot e^{-jk\pi f t_n} \quad N = n \cdot S_{ampling} \cdot f_{ine}$$

$$F_{f} = A_0 \cdot e^{-a_0 j} + A_1 \cdot e^{-a_1 j} + ... + A_n \cdot e^{-a_{N-1} j} \quad N = S_{amples}$$

$$F_{f} = A_0 \cdot \left(\cos(-a_0) + \frac{a_0 j \sin(-a_0)}{N}\right) + ...$$

$$F_{f} = A_0 \cdot \left(\cos(-a_0) + \frac{a_0 j \sin(-a_0)}{N}\right) + A_1 \cdot \left(\cos(-\frac{2\pi f t_0}{N}\right) + ...$$

$$F_{f} = A_0 \cdot \cos(-\frac{2\pi f t_0}{N}\right) + A_1 \cdot \cos(-\frac{2\pi f t_0}{N}\right) + ...$$