CS6300 - Speech Technology: Laboratory 1

1. Generate a sinusoid in the range 80-100Hz, 1000-1500 Hz, 2000-2500, ... (single tone). Listen to the same.
2. Shift the signal from 1 in time in terms seconds and milliseconds. Do you perceive any delay?
3. Scale the given signal in time: $\frac{t}{4}$, $4t$. Listen to the same and record your observations.
4. Clip the signal in 1 to 50%, 25% of its maximum value. Listen to the same. Compare the signal in 1 and this signal.
5. Generate two tones $x\ Hz$ and $y = x + \Delta x Hz$ for different values of Δx. Add them and play. Listen. What do you perceive? Next introduce a delay in y. What do you perceive?
6. Generate a tone ($1500Hz$), sample adequately. Sample the signal at lower/higher than Nyquist rates. Listen to all three of them and comment on the same.