Experiment-1

Aim:- To study sampling theorem and simulate the above using Matlab/Octave.

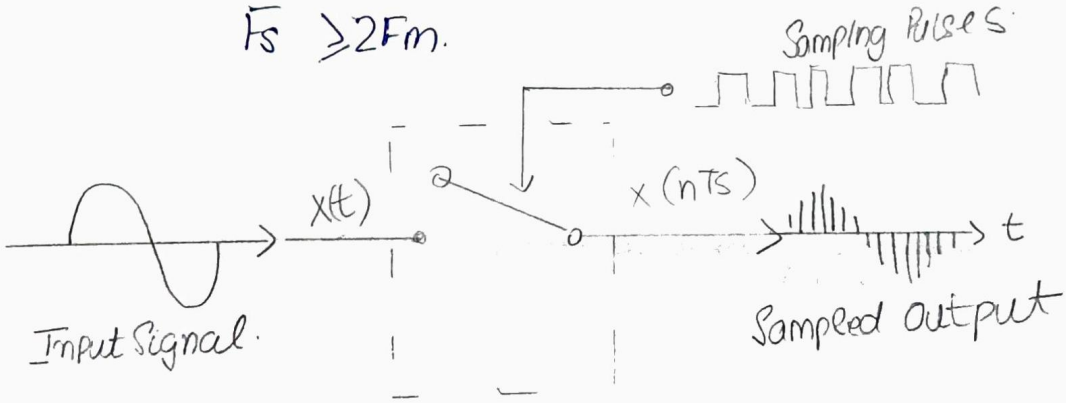
Software Used:- GNU/Octave.

Theory:

Sampling Theorem: It can be defined as the conversion of an analog signal into a discrete form by taking the sampling frequency as twice the input analog signal frequency. Input signal frequency denoted by Fm & Sampling signal frequency denoted by F_S.

Sampling Frequency $F_S = \frac{1}{T_S}$

$F_S \geq 2F_m$.



The process of transforming back the signal (sampled) $x(nT_S)$ to the original input signal $x(t)$ is known as the reconstruction of the sampling theorem signal.