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Experiment 4 (Application)	

PROBLEM DEFINITION:	Authentication using Audio Password Verification using Energy Spectral Density.
ALGORITHM:	1. Record Audio Password and filter the noise as x[n]. 2. Record Test Audio Password and filter the noise as y[n]. 3. Calculate X[k] and Y[k] using FFT. 4. Calculate $\|X[k]\|^2$ and $\|Y[k]\|^2$. 5. Calculate Coefficient of Correlation of $\|X[k]\|^2$ and $\|Y[k]\|^2$ => r. 6. Authenticate the user by selecting appropriate threshold value (anything > 0.9).
EXPERIMENTATION AND RESULT ANALYSIS:	

RESULT:	Final Output:
	`PS C:\Users\shah1\Desktop\Sem Folders\Sem VI Subjects\FOSIP> python -u "c:\Users\shah1\Desktop\Sem Folders\Sem VI Subjects\FOSIP\Experiment 4\application.py"`
	`Coefficient of Correlation: 1.0`
	`Authentication successful.`
	`PS C:\Users\shah1\Desktop\Sem Folders\Sem VI Subjects\FOSIP>`