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| **Experiment 4 (Application)** | |

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| **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: |

1