[1]:

```python
import numpy as np
from scipy.fftpack import dct, idct
import matplotlib.pyplot as plt

# Original signal
signal = np.array([10, 20, 30, 40, 50, 60])

# Apply DCT
dct_coeffs = dct(signal, norm='ortho')
print("DCT Coefficients:", dct_coeffs)

# Thresholding
threshold = 15
dct_coeffs_thresholded = np.where(np.abs(dct_coeffs) < threshold, 0, dct_coeffs)
print("Thresholded DCT Coefficients:", dct_coeffs_thresholded)

# Reconstruct the signal using IDCT
reconstructed_signal = idct(dct_coeffs_thresholded, norm='ortho')
print("Reconstructed Signal:", reconstructed_signal)

# Plot original and reconstructed signals
plt.figure(figsize=(10, 6))
plt.plot(signal, label='Original Signal', marker='o')
plt.plot(reconstructed_signal, label='Reconstructed Signal', marker='x')
plt.title('DCT Signal Reconstruction with Thresholding')
plt.xlabel('Index')
plt.ylabel('Amplitude')
plt.legend()
plt.grid(True)
plt.show()
```

```
DCT Coefficients: [ 85.732141   -41.62561796   0.          -4.0824829    0.
  -0.80078891]
Thresholded DCT Coefficients: [ 85.732141   -41.62561796   0.           0.           0.
   0.        ]
Reconstructed Signal: [11.78632795 18.00641263 28.77991532 41.22008468 51.99358737 58.21367205]
```