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# **Experiment No: 3**

package Exp;

import javax.crypto.Cipher;

import javax.crypto.KeyGenerator;

import javax.crypto.SecretKey;

import javax.crypto.spec.SecretKeySpec;

import java.util.Base64;

public class DESEncryptionExample {

    public static void main(String[] args) throws Exception {

        // Generate a DES key

        SecretKey secretKey = KeyGenerator.getInstance("DES").generateKey();

        // Create a DES cipher for encryption

        Cipher encryptionCipher = Cipher.getInstance("DES/ECB/PKCS5Padding");

        encryptionCipher.init(Cipher.ENCRYPT\_MODE, secretKey);

        // Create a DES cipher for decryption

        Cipher decryptionCipher = Cipher.getInstance("DES/ECB/PKCS5Padding");

        decryptionCipher.init(Cipher.DECRYPT\_MODE, secretKey);

        String plainText = "This is a secret message";

        // Encrypt the data

        byte[] encryptedBytes = encryptionCipher.doFinal(plainText.getBytes("UTF-8"));

        String encryptedBase64 = Base64.getEncoder().encodeToString(encryptedBytes);

        System.out.println("Encrypted: " + encryptedBase64);

        // Decrypt the data

        byte[] decryptedBytes = decryptionCipher.doFinal(Base64.getDecoder().decode(encryptedBase64));

        String decryptedText = new String(decryptedBytes, "UTF-8");

        System.out.println("Decrypted: " + decryptedText);

    }

}

