Assignment no 9

Input-

```
import javax.crypto.Cipher;
import javax.crypto.spec.SecretKeySpec;
import java.util.Base64;
import java.util.Scanner;
public class DESExample {
    public static void main(String[] args) throws Exception {
        Scanner scanner = new Scanner(System.in);

        // Input plaintext from user
        System.out.print("Enter the plaintext: ");
        String plainText = scanner.nextLine();

        // Input key from user
        System.out.print("Enter the key (8 characters for DES): ");
        String key = scanner.nextLine();

        // Ensure the key length is 8 characters
        if (key.length() != 8) {
            System.out.println("Error: Key length must be 8 characters.");
            return;
        }
        SecretKeySpec secretKey = new SecretKeySpec(key.getBytes(), "DES");

        // Encryption
        Cipher cipher = Cipher.getInstance("DES");
        cipher.init(Cipher.ENCRYPT_MODE, secretKey);
        byte[] encryptedBytes = cipher.doFinal(plainText.getBytes());
        String encryptedText = Base64.getEncoder().encodeToString(encryptedBytes);
```

```
        System.out.println("Encrypted Text: " + encryptedText);
        // Decryption
        cipher.init(Cipher.DECRYPT_MODE, secretKey);
        byte[] decryptedBytes = cipher.doFinal(Base64.getDecoder().decode(encryptedText));
        String decryptedText = new String(decryptedBytes);
        System.out.println("Decrypted Text: " + decryptedText);

        scanner.close();
    }
}
```

Output-

```
Enter the plaintext: hello
Enter the key (8 characters for DES): abcdefgh
Encrypted Text: SPjdrAgKBpg=
Decrypted Text: hello
```