**Coding:**

package java\_cryptography;

import java.security.KeyPair;

import java.security.KeyPairGenerator;

import java.security.PrivateKey;

import java.security.PublicKey;

import java.security.SecureRandom;

import java.security.Signature;

import javax.xml.bind.DatatypeConverter;

public class Digital\_Signature\_GeeksforGeeks {

private static final String SIGNING\_ALGORITHM = "SHA256withRSA";

private static final String RSA = "RSA";

public static byte[] Create\_Digital\_Signature(byte[] input, PrivateKey Key) throws Exception {

Signature signature = Signature.getInstance(SIGNING\_ALGORITHM);

signature.initSign(Key);

signature.update(input);

return signature.sign();

}

public static KeyPair Generate\_RSA\_KeyPair() throws Exception {

SecureRandom secureRandom = new SecureRandom();

KeyPairGenerator keyPairGenerator = KeyPairGenerator.getInstance(RSA);

keyPairGenerator.initialize(2048, secureRandom);

return keyPairGenerator.generateKeyPair();

}

public static boolean Verify\_Digital\_Signature(byte[] input, byte[] signatureToVerify, PublicKey key) throws Exception {

Signature signature = Signature.getInstance(SIGNING\_ALGORITHM);

signature.initVerify(key);

signature.update(input);

return signature.verify(signatureToVerify);

}

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

String input = "GEEKSFORGEEKS IS A COMPUTER SCIENCE PORTAL";

KeyPair keyPair = Generate\_RSA\_KeyPair();

byte[] signature = Create\_Digital\_Signature(input.getBytes(), keyPair.getPrivate());

System.out.println("Signature Value:\n " + DatatypeConverter.printHexBinary(signature));

System.out.println("Verification: " + Verify\_Digital\_Signature(input.getBytes(), signature, keyPair.getPublic()));

}

}

Output:

