﻿using System;

using Microsoft.VisualStudio.TestTools.UnitTesting;

using SecurityLibrary;

namespace SecurityPackageTest

{

[TestClass]

public class CeaserTest

{

string mainPlain = "meetmeaftertheparty";

string mainCipher = "phhwphdiwhuwkhsduwb".ToUpper();

int mainKey = 3;

string mainPlain1 = "defendtheeastwallofthecastle";

string mainCipher1 = "defendtheeastwallofthecastle".ToUpper();

int mainKey1 = 0;

string mainPlain2 = "defendtheeastwallofthecastle";

string mainCipher2 = "bcdclbrfccyqruyjjmdrfcayqrjc".ToUpper();

int mainKey2 = 24;

string newPlain = "THEQUICKBROWNFOXJUMPSOVERTHELAZYDOG".ToLower();

string newCipher = "WKHTXLFNEURZQIRAMXPSVRYHUWKHODCBGRJ".ToUpper();

int newKey = 3;

[TestMethod]

public void CeaserTestEnc1()

{

Ceaser algorithm = new Ceaser();

string cipher = algorithm.Encrypt(mainPlain, mainKey);

Assert.IsTrue(cipher.Equals(mainCipher, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestDec1()

{

Ceaser algorithm = new Ceaser();

string plain = algorithm.Decrypt(mainCipher, mainKey);

Assert.IsTrue(plain.Equals(mainPlain, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestAnalysis1()

{

Ceaser algorithm = new Ceaser();

int key = algorithm.Analyse(mainPlain, mainCipher);

Assert.AreEqual(mainKey, key);

}

[TestMethod]

public void CeaserTestEnc2()

{

Ceaser algorithm = new Ceaser();

string cipher = algorithm.Encrypt(mainPlain1, mainKey1);

Assert.IsTrue(cipher.Equals(mainCipher1, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestDec2()

{

Ceaser algorithm = new Ceaser();

string plain = algorithm.Decrypt(mainCipher1, mainKey1);

Assert.IsTrue(plain.Equals(mainPlain1, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestAnalysis2()

{

Ceaser algorithm = new Ceaser();

int key = algorithm.Analyse(mainPlain1, mainCipher1);

Assert.AreEqual(mainKey1, key);

}

[TestMethod]

public void CeaserTestEnc3()

{

Ceaser algorithm = new Ceaser();

string cipher = algorithm.Encrypt(mainPlain2, mainKey2);

Assert.IsTrue(cipher.Equals(mainCipher2, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestDec3()

{

Ceaser algorithm = new Ceaser();

string plain = algorithm.Decrypt(mainCipher2, mainKey2);

Assert.IsTrue(plain.Equals(mainPlain2, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestAnalysis3()

{

Ceaser algorithm = new Ceaser();

int key = algorithm.Analyse(mainPlain2, mainCipher2);

Assert.AreEqual(mainKey2, key);

}

[TestMethod]

public void CeaserTestNewEnc1()

{

Ceaser algorithm = new Ceaser();

string cipher = algorithm.Encrypt(newPlain, newKey);

Assert.IsTrue(cipher.Equals(newCipher, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestNewDec1()

{

Ceaser algorithm = new Ceaser();

string plain = algorithm.Decrypt(newCipher, newKey);

Assert.IsTrue(plain.Equals(newPlain, StringComparison.InvariantCultureIgnoreCase));

}

[TestMethod]

public void CeaserTestNewAnalysis1()

{

Ceaser algorithm = new Ceaser();

int key = algorithm.Analyse(newPlain, newCipher);

Assert.AreEqual(newKey, key);

}

}

}