Cryptography

Quiz, 14 questions

> 1
> point

1.
Encrypt the following phrase with the Caesar Cipher algorithm, using key 15.

Can you imagine life WITHOUT the internet AND computers in your pocket?

What is the encrypted string?

(Note: Spacing and punctuation should be preserved in your encrypted message.)

> Enter answer here

> 1
> point

2.
Encrypt the following phrase with the algorithm described for using two Caesar Cipher keys, with key1 = 21 and key2 = 8.

Can you imagine life WITHOUT the internet AND computers in your pocket?

What is the encrypted string?

(Note: Spacing and punctuation should be preserved in your encrypted message.)

> Enter answer here

> 1
> point

3.
Consider the Caesar Cipher two-key algorithm described in this course. Every other character, starting with the first, will use the Caesar Cipher algorithm with **key1**, and every other character, starting with the second, will use the Caesar Cipher algorithm with **key2**.

Assume **shiftedAlphabet1** is the shifted alphabet using **key1** and **shiftedAlphabet2** is the shifted alphabet using **key2**, both are of type **String**.

If **i** is the location of the current character in the message, and **idx** is the integer variable of the location of the current character in the original alphabet, which one of the following segments of code correctly gets the corresponding encrypted character?

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○
```
1   if (i % 2 != 0)  {
2       newChar = shiftedAlphabet1[idx];
3   }
4   else {
5       newChar = shiftedAlphabet2[idx];
6   }
```

○
```
1   if (i % 2 == 0)  {
2       newChar = shiftedAlphabet1.charAt(idx);
3   }
4   else {
5       newChar = shiftedAlphabet2.charAt(idx);
6   }
```

○
```
1   if (i % 2 == 0)  {
2       newChar = shiftedAlphabet1[idx];
3   }
4   else {
5       newChar = shiftedAlphabet2[idx];
6   }
```

○
```
1   if (i % 2 != 0)  {
2       newChar = shiftedAlphabet1.charAt(idx);
3   }
4   else {
5       newChar = shiftedAlphabet2.charAt(idx);
6   }
```

1
point

4.

Consider the file **errors.txt**.

What is the most common word length (ignoring the punctuation of the first and last character of each group of characters)?

Enter answer here

1
point

5.

Consider the file **manywords.txt**.

What is the most common word length (ignoring the punctuation of the first and last character of each group of characters)?

Enter answer here

1
point

6.

The following phrase was encrypted with the two-key encryption method we discussed using the two keys 14 and 24. What is the decrypted message?

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Hfs cpwewloj loks cd Hoto kyg Cyy.

(Note: Spacing and punctuation should be preserved in your answer.)

Enter answer here

1
point

7.

The following phrase was encrypted with the two-key encryption method described in this course. You will need to figure out which keys were used to encrypt it.

Aal uttx hm aal Qtct Fhljha pl Wbdl. Pvxvxlx!

What is the original message?

(Note: Spacing and punctuation should be preserved in your answer.)

Enter answer here

1
point

8.

Decrypt the encrypted file **mysteryTwoKeysQuiz.txt**.

This file is encrypted with the two-key encryption method we discussed. You'll need to decrypt the complete file by figuring out which keys were used to decrypt it.

What are the first _five_ decrypted words?

(Note: Spacing and punctuation should be preserved in your answer.)

Enter answer here

1
point

9.

Decrypt the encrypted file **mysteryTwoKeysQuiz.txt**.

This file is encrypted with the two-key encryption method we discussed. You'll need to decrypt the complete file by figuring out which keys were used to decrypt it.

What are the two keys used to encrypt it?

Note: Enter your answer as **firstkey**,**secondkey** with no spaces, for example:

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Enter answer here

1
point

10.
Which of the following is the best choice for adding additional private fields to the **CaesarCipherTwo** class created in the last lesson to make it easier to call **decrypt** on a string that was encrypted using an object of this class?

○ Create 26 shifted alphabets, one for each possible key.

○ Create 26 possible key variables.

○ As **key1** and **key2** of type **int**, which are parameters to the constructor.

○ Create an array of shifted alphabets, one shifted alphabet for each key.

1
point

11.
Should the **halfOfString** method in the **TestCaesarCipherTwo** class be public or private?

○ public

○ private

1
point

12.

Consider the following two classes **Simple** and **TestSimple** for the remaining questions.

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```
1   public class Simple{
2        private String word;
3        private String phrase;
4        public Simple(int number, String w) {
5            word = w;
6            phrase = mystery(number, w);
7        }
8        private String mystery(int num, String s) {
9            String answer = "";
10           for (int k=0; k<num; k++) {
11               answer = answer + s;
12           }
13           return answer;
14       }
15
16       public String toString() {
17           return phrase + " is " + word + " repeated";
18       }
19   }
```

```
1   public class TestSimple{
2        public void print() {
3            Simple item = new Simple(3, "blue");
4            System.out.println(item);
5        }
6   }
```

Why is there no return type for the method **Simple**?

- ⚪ The user forgot to put the return type, it should be String.

- ⚪ It should not have a return type.

- ⚪ The user forgot to put the return type, it should be void.

- ⚪ The user forgot to put the return type, it should be int.

| 1 |
| point |

13.

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Quiz, 14 questions

```
1   public class Simple{
2       private String word;
3       private String phrase;
4       public Simple(int number, String w) {
5           word = w;
6           phrase = mystery(number, w);
7       }
8       private String mystery(int num, String s) {
9           String answer = "";
10          for (int k=0; k<num; k++) {
11              answer = answer + s;
12          }
13          return answer;
14      }
15
16      public String toString() {
17          return phrase + " is " + word + " repeated";
18      }
19  }
```

```
1   public class TestSimple{
2       public void print() {
3           Simple item = new Simple(3, "blue");
4           System.out.println(item);
5       }
6   }
```

What is printed when the **print** method in **TestSimple** is called?

○ **blueblueblue is blue repeated**

○ **blue, 3**

○ **3, blue**

○ **blue**

○ **blueblueblue**

---

1 point

14.