# Breaking the Vigenère Cipher

Quiz, 7 questions

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| 1 point |
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## 1.

What is the language of **secretmessage3.txt**?

- ○ **Danish**
- ○ **Dutch**
- ○ **English**
- ● **French**
- ○ **German**
- ○ **Italian**
- ○ **Portuguese**
- ○ **Spanish**

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| 1 point |
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## 2.

What is the <u>first line</u> of the message you decrypted from **secretmessage3.txt**?

> La chambre à coucher de Juliette.

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| 1 point |
|---|

## 3.

What is the language of **secretmessage4.txt**?

○ **Danish**

○ **Dutch**

○ **English**

○ **French**

⦿ **German**

○ **Italian**

○ **Portuguese**

○ **Spanish**

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> 1
> point

### 4.

What is the <u>first line</u> of the message you decrypted from **secretmessage4.txt**?

> Drei Hexen treten auf.

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> 1
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### 5.

Recall that the choice to test key lengths 1–100 was arbitrary, and that the longer a key is with respect to an encrypted message, the less likely this Vigenère decryption algorithm is to work.

How long would a key have to be, so that you could gain <u>no information</u> about an original message by analyzing the encrypted message?

○ 1/26 the message length

○ Half the message length

⦿ Exactly the message length

○ There is no key length that ensures an unbreakable Vigenère implementation.

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## 6.

The Vigenère decryption algorithm used in this lesson has limitations.

In which of the following scenarios could the program return incorrect results? (Select all that are correct.)

- ☑ The language of the original message when written in sentences has different letter frequencies than the sum of individual words in the dictionary.

- ☑ The language of the original message has multiple letters of comparable high frequency.

- ☑ The language of the original message has an unusual letter that is highest in frequency (not 'e' or 'a').

- ☑ The language of the original message is not included in the dictionaries.

- ☑ The language of the original message has many characters not in the English alphabet.

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## 7.

Consider the Vigenère decryption algorithm described in this lesson.

Which one of the following could be a problem?

- ⦿ The key length is long compared with the message.

- ○ The message is long compared with the key length.

- ○ Neither—the key length compared with the message is unimportant.

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