# Problem 1 – Email Encryption

Write a PHP program to **encrypt an email message**. The email message consists of **recipient**, **subject** and **message body**. The **first step** is to **format** the email message as HTML in the following format (ensure you handle correctly all HTML special chars with the **htmlspecialchars()** PHP function):

|  |
| --- |
| <p class='recipient'>*recipient*</p><p class='subject'>*subject*</p><p class='message'>*message body*</p> |

You are also given an **encryption key**. The **second step** is to **encrypt** the formatted message by this encryption key using the following **algorithm**: **multiply** the ASCII code of the first letter of the message with the ASCII code of the first letter of the key, then the second letter of the message, with the second letter of the key, etc. When the last letter of the key is reached, the encryption is restarted again from the first letter of the key. The obtained numbers should be stored in **hexadecimal** format, separated by **|**. For example, if we encrypt the message "**Hello PHP**" with the key "**3G@p**", the result will be "**|e58|1c03|1b00|2f40|161d|8e0|1400|1f80|ff0|**" (because '**H**' \* '**3**' = 72\*51 = 3672 = **e58**; '**e**' \* '**G**' = 101\*71 = 7171 = **1c03**; …; '**H**' \* '**p**' = 72\*112 = 8054 = **1f80**; '**P**' \* '**3**' = 80\*51 = 4080 = **ff0**).

### Input

The input will be read from an **HTTP GET** **request** holding parameters named **recipient**, **subject**, **body** and **key**.

### Output

The output should hold the **encrypted email message**.

### Constraints

* The **recipient**, **subject** and **key** are text fields holding non-empty strings.
* The **body** is a non-empty text area holding one or several text lines.
* Allowed working time: 0.2 seconds. Allowed memory: 16 MB.

### Example

|  |  |
| --- | --- |
| **Input** | |
| recipient | info@softuni.bg |
| subject | SoftUniConf <2014> |
| body | SoftUniConf <2014> is coming.  <a href="https://softuni.bg/SoftUniConf">Learn more</a> |
| key | s3cr3t! |
| **Formatted Message** | |
| <p class='recipient'>info@softuni.bg</p><p class='subject'>SoftUniConf &lt;2014&gt;</p><p class='message'>SoftUniConf &lt;2014&gt; is coming.  &lt;a href=&quot;https://softuni.bg/SoftUniConf&quot;&gt;Learn more&lt;/a&gt;</p> | |
| **Output** | |
| |1af4|1650|c60|2c16|1584|2bf4|ed3|33a9|c27|f15|32c4|141f|2cdc|d89|3250|14eb|270f|30fc|171c|11ac|7fe|2f2b|15ea|2772|316e|cc0|341c|e4f|2dd2|171c|2d3f|30fc|14eb|14d8|ca2|2e45|bf4|122d|31e0|c5a|1b30|e70|e60|13b9|29c4|2b32|16e9|341c|7dd|1185|16e9|2d3f|2ba4|151e|2dc4|cc3|341c|7c5|17fa|24f6|161d|2e38|ef4|262f|15ea|289b|1dd6|161d|31d8|d26|e60|792|29c4|33a8|bc1|16a8|630|1603|a5c|eb2|2dde|171c|1abc|7bc|151d|1650|17fa|1ab8|1650|e80|cc3|3084|1353|2c79|3336|c27|11ac|e0d|2d5f|16e9|2c79|2b32|1485|2dc4|507|1bda|1089|2aed|2d6c|171c|2684|e2e|2f2b|d59|2aed|30fc|1452|e80|4e6|3084|171c|16d1|1644|990|1634|6b4|1112|1485|2cdc|1a46|660|2f94|ed3|e60|13b9|2aed|308a|14eb|31d8|d47|14aa|297|3de|10ec|1584|3490|79b|2b93|660|2838|32c4|141f|2e38|7dd|1112|1683|2d3f|316e|171c|1abc|d68|341c|171c|2b50|3336|b8e|154c|60f|33a9|161d|2772|33a8|174f|31d8|d89|14aa|1386|27d5|14ee|1089|324c|d26|341c|10ef|2a8a|2ec2|d59|324c|e2e|2dd2|792|2bb3|341a|161d|3490|79b|1112|1485|2cdc|1a46|f24|2dc4|c81|3336|15ea|c60|308a|161d|33a8|d05|1112|1584|2cdc|1a46|95d|2bf4|4e6|2e45|171c|16d1|1ab8|95d|32c0|7fe| | |