## Unit 1.7 System Software – Lesson 2

# Activity 2

## Encryption

Encryption is the process of scrambling data using a key so that the message becomes unreadable to somebody who doesn’t have the key. This prevents them reading the ‘Secret Code’

## Task 1 (Low Level)

Using the grid below crack the following code:

D V O O W L M V B L F S Z E V X I Z X P V W G S V X L W V

| **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** | **J** | **K** | **L** | **M** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Z** | **Y** | **X** | **W** | **V** | **U** | **T** | **S** | **R** | **Q** | **P** | **O** | **N** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **N** | **O** | **P** | **Q** | **R** | **S** | **T** | **U** | **V** | **W** | **X** | **Y** | **Z** |
| **M** | **L** | **K** | **J** | **I** | **H** | **G** | **F** | **E** | **D** | **C** | **B** | **A** |

## Task 2 (Low Level)

Using the key above – can you encrypt a message of your choice and swap with a partner for them to then decrypt your message.

## Task 1 (Medium Level)

Using the partially completed grid below – crack the following code:

Hint: Try to recognise the pattern in the key

D V O O W L M V B L F S Z E V X I Z X P V W G S V X L W V

| **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** | **J** | **K** | **L** | **M** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **W** | **V** |  |  | **S** |  |  | **P** |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **N** | **O** | **P** | **Q** | **R** | **S** | **T** | **U** | **V** | **W** | **X** | **Y** | **Z** |
|  | **L** |  |  |  | **H** |  |  |  | **D** | **C** |  |  |

## Task 2 (Medium Level)

Using the key above – can you encrypt a message of your choice and swap with a partner for them to then decrypt your message.

## Task 3 (Hard Level)

Crack the following code:

F C J J M Y L B U C J A M K C R M Y Q C A P C R A M B C

| **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** | **J** | **K** | **L** | **M** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  | **O** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| **N** | **O** | **P** | **Q** | **R** | **S** | **T** | **U** | **V** | **W** | **X** | **Y** | **Z** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

Hint:

* One word has a double letter – what possible double letters exist?
* How many one letter words are there that could be used in a sentence?
* There is one two letter word – what possible two letter words could there be?

How has the secret key been created?

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