

# SCS2204 Functional Programming

## Lab sheet 06

Index Number: 21000557

- ❖ Please note that the Scala files are located in src/main/scala folder.
- ❖ GitHub Link: [https://github.com/ItsAeox/UCSC\\_FP\\_labsheet\\_06](https://github.com/ItsAeox/UCSC_FP_labsheet_06)
- ❖ Screenshot of the code is given below.

```
Ciper.scala X
src > main > scala > Ciper.scala > main
1  def encrypt(message: String): String = {
2      message.map { char =>
3          if (char.isLetter) {
4              val base = if (char.isUpper) 'A' else 'a'
5              val shiftedChar = (char - base + 1) % 26 + base
6              shiftedChar.toChar
7          } else {
8              char
9          }
10     }
11 }
12
13 def decrypt(message: String): String = {
14     message.map { char =>
15         if (char.isLetter) {
16             val base = if (char.isUpper) 'A' else 'a'
17             val shiftedChar = (char - base + -1 + 26) % 26 + base
18             shiftedChar.toChar
19         } else {
20             char
21         }
22     }
23 }
24
25 def ciper(message: String, functionSelection: String => String): String = {
26     functionSelection(message)
27 }
28
29 def main(args: Array[String]): Unit = {
30     val encryptionMessage = "This message will be encrypted!"
31     val decryptionMessage = "Uijt nfttbhf xjmm cf efdszqufe!"
32
33     val encryptedMessage = ciper(encryptionMessage, encrypt)
34     println(s"Encrypted Message: $encryptedMessage")
35
36     val decryptedMessage = ciper(decryptionMessage, decrypt)
37     println(s"Decrypted Message: $decryptedMessage")
38 }

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
PS C:\Users\gayat\Desktop\Scala\UCSC_FP_labsheet_06> scala "c:\Users\gayat\Desktop\Scala\UCSC_FP_labsheet_06\Ciper.scala"
Encrypted Message: Uijt nfttbhf xjmm cf fodsqufe!
Decrypted Message: This message will be decrypted!
PS C:\Users\gayat\Desktop\Scala\UCSC_FP_labsheet_06>
```