E:\stage 3\Security\Midterm\Vigenere\src\vigenere\Vigenere.java

```
/**
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 * MidtermExam Study (-_-
 * 6:35
 */
package vigenere;
public class Vigenere {
    char[] alpha = {'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z'};
     void encripyion(String message,String key) {

        char[] charmessage = message.toCharArray();
        char[] charkey = key.toCharArray();
        int keylength  = key.length();

        int indexMessage[]=new int[charmessage.length];
        int indexkey[]    =new int[charmessage.length];
        int chipherIndex[]=new int[charmessage.length];

        // Message convert to index of alpha
        for (int i = 0; i < charmessage.length; i++) {
            for (int j = 0; j < alpha.length; j++) {
                if (charmessage[i] == alpha[j]) {
                    indexMessage[i] = j;
                }
            }
        }

        // Key convert to index of alpha
        for (int i = 0; i < charkey.length; i++) {
            for (int j = 0; j < alpha.length; j++) {
                if (charkey[i] == alpha[j]) {
                    indexkey[i] = j;
                }
            }
        }

        for (int i = 0; i < charmessage.length; i++) {
            indexkey[i] = indexkey[i % keylength];
        }

        for (int i = 0; i < chipherIndex.length; i++) {
            chipherIndex[i] = (indexMessage[i] + indexkey[i])%26;
        }

        System.out.print("cipher result -->");
          for (int i = 0; i < charmessage.length; i++) {
              System.out.print(alpha[chipherIndex[i]]);
         }    System.out.println("");
              System.out.println("---------------------------------------");
    }

    void decripyion(String message,String key) {

        char[] charmessage = message.toCharArray();
```

```
56        char[] charkey = key.toCharArray();
57        int keylength = key.length();
58
59        int indexMessage[]=new int[charmessage.length];
60        int indexkey[]    =new int[charmessage.length];
61        int chipherIndex[]=new int[charmessage.length];
62
63        // Cipher convert to index of alpha
64        for (int i = 0; i < charmessage.length; i++) {
65            for (int j = 0; j < alpha.length; j++) {
66                if (charmessage[i] == alpha[j]) {
67                    indexMessage[i] = j;
68                }
69            }
70        }
71
72        // Key convert to index of alpha
73        for (int i = 0; i < charkey.length; i++) {
74            for (int j = 0; j < alpha.length; j++) {
75                if (charkey[i] == alpha[j]) {
76                    indexkey[i] = j;
77                }
78            }
79        }
80
81        for (int i = 0; i < charmessage.length; i++) {
82            indexkey[i] = indexkey[i % keylength];
83        }
84
85        for (int i = 0; i < chipherIndex.length; i++) {
86            chipherIndex[i] = (indexMessage[i] - indexkey[i]+26)%26;
87        }
88
89          System.out.print("cipher result -->");
90        for (int i = 0; i < charmessage.length; i++) {
91          System.out.print(alpha[chipherIndex[i]]);
92         }System.out.println("");
93          System.out.println("----------------------------------------");
94    }
95
96    public static void main(String[] args) {
97        Vigenere cob = new Vigenere();
98        cob.encripyion("rezhwan","abc");
99        cob.decripyion("rfbhxcn", "abc");
100     }
101 }
102 /*Output
103 cipher result -->rfbhxcn
104 ---------------------------------
105 cipher result -->rezhwan
106 ---------------------------------------
107 */
```