The Islamic University
College of Technical Engineering
Department of Computer Technical Engineering

Fourth Stage

Security Lab.

Lecture 3 & 4

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Lecture 3 – Encryption using Multiplicative Cipher

Example

Write a program in Matlab to Encrypt the message “hello” using Multiplicative Cipher

Encryption Code

```
clear, clc

p = input('Enter the message: ','s');

k = input('Enter the key: ');

p = lower(p);

p = int16(p) - 97;

c = mod(p * k, 26);

c = char(c + 65)
```

```
Enter the message: >> hello
Enter the key: 9

c =

LKVVW
```

Homework

Write a code in MATLAB program to encrypt the message (“meet me after the party”) by using Multiplicative Cipher without using the ‘input’ command and by using key = D

Lecture 4 – Decryption using Multiplicative Cipher

Example

Write a program in Matlab to Decrypt the message "LKVVW" using Multiplicative Cipher

Decryption Code

```
clear, clc
c = input('Enter the message: ','s');
k = input('Enter the key: ');
c = upper(c);
c = int16(c) - 65;
for i=1:25
    if mod(k*i,26)==1
        k1=i;
    end
end
p = mod(c * k1, 26);
p = char(p + 97)
```

Try all the numbers from 1 to 25, if the number multiplied by the key and entered on module 26 will equal to 1 then save this number to k1

```
Enter the message: >> lkvvw
Enter the key: 9

p =

hello
```

Homework

Write a program in MATLAB to find the Plaintext from the Cipher text "WDKVMYCZZ" by using Multiplicative Cipher and try which key will find the original message.