Lab 1: Ciphers and Fundamentals

A   Introduction

No	Description	Result
1	Go to: **http://asecuritysite.com/Challenges** and click on the "Start Challenge" button, and see if you can score over 30 points.	Your score: `30`
2	Using: http://asecuritysite.com/Encryption/testprime Test for the following prime numbers:	91: [Yes] [`No`] 421: [`Yes`] [No] 1449: [Yes] [`No`]
3	Using: http://asecuritysite.com/Encryption/gcd Determine the GCD for the following:	88, 46: `2` 105, 35: `35`
4	Using: http://asecuritysite.com/coding/ascii Determine the Base 64 and Hex values for the following strings:	Hello: `HEX: 48656C6C6F Base-64: SGVsbG8=` hello: `HEX: 68656C6C6F Base-64: aGVsbG8=` HELLO: `HEX: 48454C4C4F Base-64: SEVMTE8=`
5	Using: http://asecuritysite.com/coding/ascii Determine the following ASCII strings for these encoded formats:	bGxveWRz `lloyds` 6E6170696572 `napier` 01000001 01101110 01101011 01101100 01100101 00110001 00110010 00110011 `Ankle123`
6	Using: http://asecuritysite.com/Coding/exor Determine the EX-OR of "hello" ex-ORed with the letter 't'	Hex: `1C1118181B` Base 64: `HBEYGBs=` Is the result printable in ASCII? [Yes][`No`]
7	What is the result of 53,431 mod 453?	`430`

8	Generate a random number from: http://asecuritysite.com/Encryption/js01	How many hex characters does the result have? **60**

B   Frequency Analysis

Now see if you can crack the **five minute cracking challenge** for:

http://asecuritysite.com/challenges/scramb

C   Character mapping

Complete the following table for the characters:

Char	Decimal	Binary	Hex	Oct	HTML
(Space)					
a					
}					
Ã					
ÿ					

D   Test

1.   Crack some Caesar codes at: http://asecuritysite.com/tests/tests?sortBy=caesar
2.   Determine some hex conversions at: http://asecuritysite.com/tests/tests?sortBy=hex01
3.   Determine some Base64 conversions: http://asecuritysite.com/tests/tests?sortBy=ascii01
4   Now complete the test at: http://asecuritysite.com/tests/tests?sortBy=crypto01