Faculty of Computing, Engineering & the Built Environment

BIRMINGHAM CITY University

PRE ARRIVAL ACTIVITY

Undergraduate Programme
Academic Year 2021/22

| Module:	Pre-Arrival Activity – Cyber Security
Assignment Title:	Cyber Security Primer
School:	Computing and Digital Technology
Co-ordinator:	Sandy Taramonli
Set Date:	August 2021
Assessment Weighting:	0% - Pre assessment coursework
Submission Method:	Discussion based submission – you will share this on Teams in your tutor group.
Nominal time to complete this assignment:	2 hours

Assessment Details
 	
To help your tutors get to know you and for you to get to know other members of your tutor group, we'd like you to complete a small task before you come to University.
	Activities:
	
	• **Task 1**
	 Why Cyber Security?
	    o Write a simple 200 word passage
	    o A group discussion
	
	• **Task 2**
	 Practical exercises for you to have a go at.
	
	Be ready to discuss these in a small MS Teams tutor group meeting in Welcome Week or the first weeks of term.
	
	Purpose:
	You are about to start the Cyber Security degree course at Birmingham City University.
	
	For some, the decision to go to University to study will be easy, but for many of us it can be daunting. The purpose of the activity is to get you to think about your decision and briefly explain it to others in a relaxed and casual setting.
	
	In your first year you will work with others in your tutor group on group assignments. This first task will help you get to know each other better. You

| | will be surprised at the variety of pathways people have taken and the different aspirations you all have.

You will share your screen in an online meeting using Teams – this will also get you used to using Teams functions for doing your studies together. |
|---|---|

Task: 1

- What inspires you to pursue a career in Cyber Security? (Write ~200 Words, to be discussed during a Teams group tutor session).

- What does a cybersecurity professional's role entail? (To be discussed during a Teams group tutor session).

Task: 2

Crypto-fun CTF (Capture The Flag): For this task, you have 4 ciphertexts to decipher. For every encrypted message you decrypt, you will get a clue that will help you decrypt the next one. Every decrypted message contains a flag; capture these flags and keep them safe. To help you get started, you will be given a hint for the first message. You will have to use the this website https://cryptii.com/ to help you complete the activities.
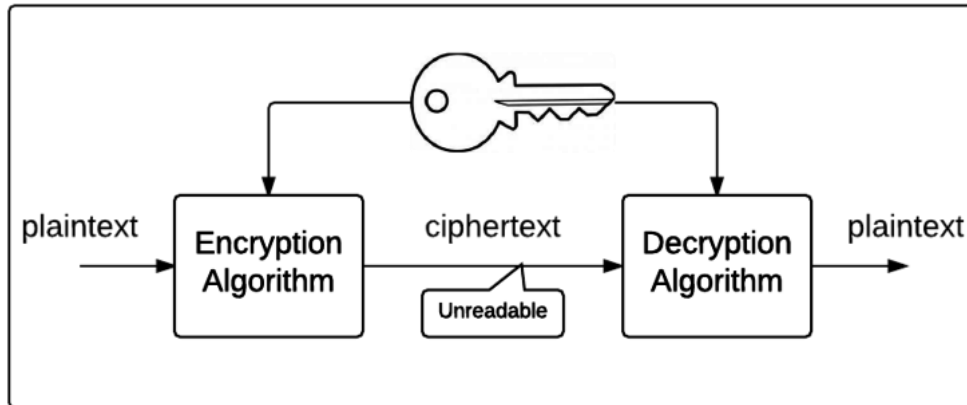
Encrypted message 1
Dvoo wlmv! Blf wvxrksvivw gsv urihg xrksvigvcg. Blfi xofv uli gsv ulooldrmt zxgrergb rh gsrh: "R xznv; R hzd; R xlmjfvivw". Urev rh gsv nztrx mfnyvi. Uozt: zyxw

Hint: The encryption cipher that has been used to encrypt this message is (in encrypted format): "**1 12 16 8 1 2 5 20 9 3 1 12 19 21 2 19 20 9 20 21 20 9 15 14 18 5 22 5 18 19 5 15 18 4 5 18**". Where each letter has been replaced by the number that represents its position in the English alphabet. For example: "**a b c**" = "**1 2 3**" and "**Good luck**" = "**7 15 15 4 12 21 3 11**"

Plain text	Ciphertext
a	1
b	2
c	3

Plain text	Cipher text
G	7
o	15
o	15
d	4
L	12
u	21
c	3
k	11

Using the Table below, do the mapping of the following numbers to letters to find out which cipher has been used for the encryption of Message 1.

Plain text	Cipher text
a	1
b	2
c	3
d	4
e	5
f	6
g	7
h	8
i	9
j	10
k	11
l	12
m	13
n	14
o	15
p	16
q	17
r	18
s	19
t	20
u	21
v	22
w	23
x	24
y	25
z	26

Plain text	Cipher text
	1
	12
	16
	8
	1
	2
	5
	20
	9
	3
	1
	12
	19
	21
	2
	19
	20
	9
	20
	21
	20
	9
	15
	14
	18
	5
	22
	5
	18
	19
	5
	15
	18
	4
	5
	18

Decrypted message 1:

Clue for the next encrypted message:

Flag:

Encrypted message 2

Bjqq itsj! Dtz ijhnumjwji ymj xjhtsi hnumjwyjcy. "N hfrj, N xfb, N htsvzjwji". Fhhtwinsl yt Uqzyfwhm, ymjxj bjwj ymj btwix gd bmnhm Ozqnzx Hfjxfw xzhhnshyqd ijxhwngji tsj tk mnx anhytwnjx. Dtzw hqzj ktw ymj ktqqtbnsl fhynanyd nx ymnx: "Inxhtzwxj ts Knwj fsi Xfqy". Nk dtz sjji f pjd, ywd Hfjxfw'x "Xmnky". Kqfl:ghz

Decrypted message 2:

Clue for the next encrypted message:

Flag:

Encrypted message 3

Bmgp iwii, dwp hjkdtmmmii bci ypdvi kdtmmmxjfo. Fqidwj lz Znozrjzz mx bci fcoltz jj "Iqngtcmwj wi Jnzz esl Neqb".   Tszz xpzm asw bci kwgptedrl ixxnddxd kvr gm aszvy ljzz: lybkw://ber.hng-aiskz.gt.cf/twwyyhb/nuzimi-uwnx-fvy-vfqg-jjvxmso-fmy/. Qa ctc iijl v ojg, olfb dw jqbly ujhztj 3. Jqib:gdjzv

Decrypted message 3:

Clue for the next encrypted message:

Flag:

Encrypted message 4

Wl oe o eihrdtefut n atcpetx.Tecu o h eto oraaei iei Tepieo ucs shr ok.Fa:eoeldn!Yudcpee h orhadls ihret h lefrters fyu cdmclf s"h rc fscesi adwr" lgzr

Decrypted message 4:

Clue for the next encrypted message:

Flag: