PROG2007 - Programming II

Assignment 4

Name: Alice Johnson ID: W0202001

Operating with Bits, the PreProcessor and Enumerated Types

Write a C program that implements a magic decoder ring using bit operations and encryption.

TASK REQUIREMENTS:

- Build a program that can encrypt and decrypt text using bit masks and XOR operations
- Implement a substitution cipher with the following table:

Start	A	B	C	D	E	F	G	H	I	J
Sub	O	P	Q	R	S	T	U	V	W	X
Start	K	L	M	N	O	P	Q	R	S	T
Sub	Y	Z	A	B	C	D	E	F	G	H
Start	U	V	W	X	Y	Z	!	@	#	$
Sub	I	J	K	L	M	N	/	@	"	#
Start	%	&	(	)	:	;	?	.	/	
Sub	$	%	'	(	:	;	?	-	.	
Start	0	1	2	3	4	5	6	7	8	9
Sub	4	5	6	7	8	9	0	1	2	3

    - Convert all input to uppercase before processing
- Use enumerated types for encrypt/decrypt modes
- Implement with proper file organization (separate .h and .c files)

SAMPLE OUTPUTS

NOTE: Your cipher shift is randomized - your output will differ from these examples

Encrypting a message:

Decrypting a message:

Bad input example:

Submission Instructions

Submit via video recording demonstrating your working program as outlined in Brightspace.