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CSMS 203

**Assignment #3 Design Document and Test Tables**

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| --- | --- | --- | --- |
| Cesar Cypher Input | Cesar Cypher Index | Cesar Cypher Expected Output | Cesar Cypher Output |
| “HELLO BOB” | 7 | “OLSSV'IVI” | “OLSSV'IVI” |
| “SUNDAY” | 5 | “XZSIF^” | “XZSIF^” |
| “{CLASS}” | 7 | Fail as outside of bounds | Resulting encrypt and decrypt = “;CLASS=” which is a fail |

|  |  |  |  |
| --- | --- | --- | --- |
| Bellaso Cypher Input | Bellaso Cypher Index | Bellaso Cypher Expected Output | Bellaso Cypher Output |
| “JERRY” | CMSC203 | “MR%UK” | “MR%UK” |
| “TOM BRADY” | CMSC203 | “W\ #4B4G&” | W\ #4B4G& |
| “{CLASS}” | CMSC203 | Fail as outside of bounds | Resulting encrypt and decrypt = “;CLASS=” which is a fail |

Decrypt Cesar

Initialize string decrypted = empty “”

For loop with (int i =0; i < length of encrypted string; i++)

Initialize character to check the encrypted character at i

Initialize decrypted character (character minus key)

While cipher < lower bound{  
a += RANGE}

decrypted += (char)decrypted character

Return decrypted

Encrypt Cesar

Initialize string encrypted = empty “”

If length of plaintext is < 0 return blank text

For loop with (int i =0; i < length of string; i++)

Initialize character to check the character at i

Initialize cipher = (int)character + key

While cipher > upper bound{  
a += RANGE}

Encrypted += (char)cipher

Return encrypted

Encrypt Bellaso

Initialize string encrypted = empty “”

Initialize length of string variable

Initialize int variable equal to (int) UPPER\_BOUND

For loop with (int i =0; i < length of string; i++)

Initialize character to check the character at i

Initialize cipher = (int)character +(int)entered string -🡪 char at (I remainder length of string

While cipher > int upper bound{  
cipher -= RANGE}

Encrypted += (char)cipher

Return encrypted

Decrypt Bellaso

Initialize string decrypted = empty “”

Initialize length of string variable

Initialize int variable equal to (int) LOWER\_BOUND

For loop with (int i =0; i < length of encrypted string; i++)

Initialize decrypted character (character minus char at (i remainder length of string)

While decrypted character < int lower bound{  
decrypted character += RANGE}

Decrypted += (char)decrypted character

Return decrypted

Check if string entered is within bounds

For loop with (int i =0; i < length of string; i++)

Initialize character to check the character at i

If character lower than lower bound or greater than upper bound: return false

Else: return true

Ask if using Caesar Cipher or Using Bellaso Cipher

Enter plain text string to encrypt: