Adriana_Machado_Encryption_Only

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In [ ]: print("Hello, welcome to Adriana Machado's encryption/decryption machine. What is your
        x = input()
        print("Nice to meet you, ", x, ". I am a non-sentient machine; you can call me Arendt."
        print("Please enter in ALL CAPS any variation of the English 26-letter alphabet with no
        y = input()

In [ ]: p = 13 # integer greater than or equal to 13
        q = 17 # integer greater than or equal to 17
        n = p * q # public key
        e = 5 # public key
        i = 2

In [ ]: def f(n):

            """phi function of n
            Argument: n
            Output: p*q-p-q+1"""

            return int((p - 1)*(q - 1))

In [ ]: d = int(((i * f(n)) + 1) / e) # private key

In [ ]: print("Your phi(n) is: ", f(n))

In [ ]: caps_alpha = {"A":1, "B":2, "C":3, "D":4, "E":5, "F":6, "G":7, "H":8, "I":9, "J":10, "K

In [ ]: def cypher(y):

            """
            For processing letters to numbers through the caps_alpha cypher.

            Argument: ALL CAPS series of letters
            Output: a list of numbers corresponding to each original letter
            """

            l_to_n = []
            for letter in y:
                number = caps_alpha.get(letter)
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            l_to_n.append(number)
        return l_to_n

    cypher = cypher(y)
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In [ ]:
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print("Your cypher is: ", cypher)
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In [ ]:
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def c_encryption(cypher):

    """
    For processing the list of numbers generated by the cypher through the given encry
    Argument: cypher output list of numbers
    Output: list of encrypted numbers
    """

    c_to_e = []
    for number in cypher:
        c = int((number**e)%n)
        c_to_e.append(c)
    return c_to_e

encryption = c_encryption(cypher)
```

In [ ]:
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print("Your encryption is: ", encryption)
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