

ECE 404 Homework 1  
Ryan Kubinski  
1/18/24

Recovered plaintext quote:

Charles Marc Herve Perceval Leclerc born 16 October 1997 is a Monegasque racing driver, currently racing in Formula One for Scuderia Ferrari. He won the GP3 Series championship in 2016 and the FIA Formula 2 Championship in 2017. Leclerc made his Formula One debut in 2018 for Sauber, a team affiliated with Ferrari, for which he was part of the Ferrari Driver Academy.

Recovered encryption key:  
1616

Explanation:

First, all  $2^{16}$  possible keys are generated in the main function. For each key we call the cryptBreak function which does a few things. First it opens the cipher text file as a Bit Vector. Next it reduces the key to a bit array so that the function can begin to carry out the differential XORing of the bit blocks, therefore decrypting the file with the given key.