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Cryptography Assignment #1

1. The Caesar cipher message decrypts to “SECRETS COMPROMISED”. The text can be generated by the matching the key text of the cipher message to each plain text letter. Each letter of cipher text key has a unique plain text letter association.
2. In the Digraph cipher, the message decrypts to “PRACTICE REDUCES THE IMPERFECTION”. Each letter of the cipher text can be decrypted by using the rules of enciphering text backwards to trace through the letters. For example, plain text translations of letters in the same row can be found by moving left instead of right. Two letters in the same column can be found by moving up instead of down. In this particular problem, rules four and five were not utilized for decryption.
3. The cipher text translates to “THE HUMAN MIND IS OUR FUNDAMENTAL RESOURCE”. To decrypt this text, the number of columns of letters in known, however the number of rows is not. The number of letters in the base cipher text is 72. There are six spaces in the “GERMAN” key. Therefore, 12 letters must occupy each column of each letter. Next, the base cipher text is divided into letter groups of 12. Each group is recorded under the key “GERMAN” by alphanumerical value. The letters are organized down the columns until each letter group is complete. The process is repeated until the base cipher text is completely recorded under the “GERMAN” key. The cipher text can now be transformed into a reduced cipher text. By starting at the top of the table and reading from left to right, reduced cipher text of two letter pairs can be generated. After the base cipher text is completely transformed, the reduced cipher text can then be translated by using the first table of enciphering. By treating each reduced cipher text pair as an ordered pair, the letter for row, and the second letter for column, a plain text letter is generated for each pair. This process is repeated until each pair is completely deciphered.