**Final Lab Report Dr. Hatim Alsuwat**

**Instructions for Final Lab Report on Ciphers**

**Objective:**  
To consolidate your understanding of the Playfair Cipher, Caesar Cipher, and Row Transposition Cipher through individual analysis and reporting.

**Report Requirements:**

1. **Title Page:**  
   Include your name, course title, and instructor's name.
2. **Introduction:**  
   Provide a brief overview of the ciphers studied. Explain the significance of encryption and introduce the three ciphers you have worked with in the labs.
3. **Cipher Descriptions:**  
   For each cipher (Playfair, Caesar, Row Transposition):
   * **Theory:** Describe the theoretical background, including how each cipher works.
   * **Key Generation:** Explain the key generation process for each cipher.
   * **Encryption Process:** Detail the steps involved in encrypting a message using each cipher.
   * **Decryption Process:** Describe how to decrypt a message for each cipher.
4. **Practical Application:**
   * Include examples of plaintext and their corresponding ciphertext for each cipher.
   * Discuss any challenges you encountered during the implementation and how you addressed them.
5. **Analysis and Comparison:**
   * Compare the strengths and weaknesses of each cipher. Discuss scenarios where one cipher might be preferred over the others.
   * Analyze the security features and vulnerabilities associated with each cipher.
6. **Conclusion:**  
   Summarize the key findings from your lab work and reflect on what you learned about encryption techniques.

**Formatting Guidelines:**

* The report should be typed, double-spaced, using a standard font (e.g., Times New Roman, 12 pt).
* Use headings and subheadings to organize your content clearly.
* Ensure proper grammar, spelling, and punctuation throughout the report.

Please ensure that the report adheres to the instructions mentioned above. If you have any questions or additional needs, feel free to reach out to me.

**Note:** This is an individual assignment. Each student must complete the lab report on their own, without collaborating with others.