

CSE 1011 Cryptography Fundamentals-Lab

List of Lab experiments

1. Write a program to implement
 - a. Cesar Cipher
 - b. Vigenere Cipher
 - c. Hill Cipher
 - d. Playfair cipher
2. Write a program to implement DES algorithm
3. Write a program to implement RSA algorithm
4. Write a program to implement MD5 message digest.
5. Write a program to implement homomorphic encryption technique
6. Write a program to demonstrate and implement secure communication using standard crypto libraries (Socket programming could be used for client/server communication)
7. Simulate the smart card based server/client applications
8. Write a program to demonstrate the implementation of authentication techniques.(Note You can use MAC or Digital Signature techniques)
9. Developing cryptographic algorithms for industrial applications

Note: Industry standards require bigger keys like RSA 2048 bits etc. You must apply these standard algorithms for industrial applications like

 1. Online Payment
 2. Mobile Commerce
 3. Cloud storage
10. Developing cryptographic algorithms for innovative applications.
 1. Big data infection
 2. Securing USB drives etc

Note: The above programs can be implemented in C/Python. The above is a representative list and could be modified by the faculty.