Lab Assignment 3: DES

Implement DES algorithm using Java.

I. Encryption
   - Input:
     - Plaintext (any size) saved in Original.txt
     - Key (8 characters) which will be converted into binary [Input from user]
   - Output:
     - Ciphertext (ASCII chars or Hexadecimal) saved in EncryptedFile.txt

II. Decryption
   - Input
     - Ciphertext already saved in Encrypted_File.txt
     - Key [Input from user]
   - Output:
     - Deciphered text saved in Decrypted_File.txt

Special Cases:

- Your code must handle that plaintext size is of any size not only 8 characters.
  - If the plain text size is less than 8 characters your code should handle that by Padding (adding special characters)
  - If the plain text size is more than 8 characters your code should also handle that by dividing plain text to blocks of size 8.
- Your code must handle that key size must be 8 characters by displaying error message and request another key from user.

Your code must handle characters including numbers, special characters (*^%$@#,...), white space (tab, space, endline). All these are characters that should NOT be ignored.

The DES works on blocks of 8 bytes of binary data, so you will not encounter any problems dealing with any characters. Any problems handling such characters will stem from your implementation and not the algorithm.
Remember that the file should return to be the same as the original in the decryption, with the exception of maybe having a few more added characters to fit the block size.