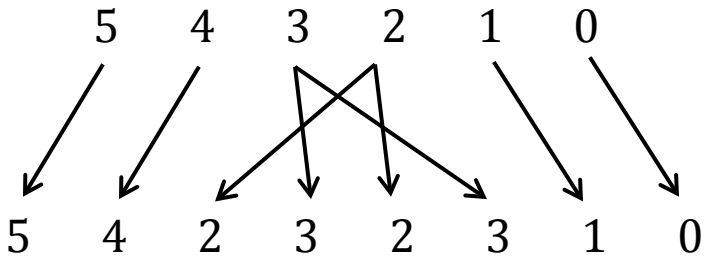
Programming Assignment – Bit Manipulation Part II

Background

In performing bit manipulation operations not only is one tasked with extracting particular bits or swapping bits (previous assignment), but one also may need to shuffle bits within a binary value.

Specification

Create a Java method shuffle bits within a byte as shown in the following diagram:



Input to the function will be a 6-bit value stored in the least significant bits of a byte. The return value will be a byte. Note that the bits are numbered starting from 0 at the least significant bit. Bits 6 and 7 (most significant bits) of the input are ignored. Use the following method definitions:

```
public static byte expander(byte _byte)
```

An example of use is as follows (xx are ignored bits):

xx011001 -> 01010101

Use the `bit2string` method we developed in class to print your results.

Deliverables

- Source code (.java) files
- Screen shot of your running program showing requested (above) results
- Reflective essay describing
  - Successes
  - Difficulties (if any) and how you addressed them
  - Lessons learned