Convert

The given Volume conversion (from a previous exam) has the same pattern as Binary number conversion. For example, decimal 13 converts to binary 01101. Replace the series form by a loop form, and enhance it to convert larger numbers, up to about a million.

// Does binary conversion
int gals;
// int strikes, bushels, pails, pecks;
gals = 13; // Whatever, less than 32

//strikes = gals / 16;
System.out.print (gals/16);
gals = gals % 16;

//bushels = gals / 8;
System.out.print (gals/8);
gals = gals % 8;

//pails = gals / 4;
System.out.print (gals/4);
gals = gals % 4;

//pecks = gals / 2;
System.out.print (gals/2);
gals = gals % 2;
System.out.print (gals/1);

// Does convert with Loop
int gals; // rename rem
int pow2; // power of 2
pow2 = 2*2*2*2; // whatever, huge

gals = 13; // Less than pow2

while (pow2 > 0) {
    // value = gals / pow2;
    System.out.print (gals/pow2);
    gals = gals % pow2;
    pow2 = pow2 / 2;
} // end while

// Output is 01101
// when temp = (int)Math.pow(2,20)
// the output is 000000000000000001101
// Does convert binary with loop
// Very short version

int gals = 13
int big = 1024*1024; // million

for (int pow2 = big; pow2 > 0; pow2 = pow2 / 2) {
    System.out.print (gals / pow2);
    gals = gals % pow2;
}//end for