$$\lfloor \frac{44}{2} \rfloor = 22, \qquad 44 mod 2 = 0;$$

$$\lfloor \frac{22}{2} \rfloor = 11, \qquad 22 mod 2 = 0;$$

$$\lfloor \frac{11}{2} \rfloor = 5, \qquad 11 mod 2 = 1;$$

$$\lfloor \frac{5}{2} \rfloor = 2, \qquad 5 mod 2 = 1;$$

$$\lfloor \frac{2}{2} \rfloor = 1, \qquad 2 mod 2 = 0;$$

$$\lfloor \frac{1}{2} \rfloor = 0, \qquad 1 mod 2 = 1;$$

$$44_{10} = 101100_2;$$

$$101100_2 = (1 \times 2^5) + (0 \times 2^4) + (1 \times 2^3) + (1 \times 2^2) + (0 \times 2^1) + (0 \times 2^0) = 32 + 0 + 8 + 4 + 0 + 0 = \boxed{44_{10}}$$