**Converting 00000100 to decimal:**

0 × 2⁷ + 0 × 2⁶ + 0 × 2⁵ + 0 × 2⁴ + 0 × 2³ + 1 × 2² + 0 × 2¹ + 0 × 2⁰ = 4

The decimal representation of 00000100 is 4.

**Converting 00001101 to decimal:**

0 × 2⁷ + 0 × 2⁶ + 0 × 2⁵ + 0 × 2⁴ + 1 × 2³ + 1 × 2² + 0 × 2¹ + 1 × 2⁰ = 13

The decimal representation of 00001101 is 13.

**Converting 00110101 to decimal:**

0 × 2⁷ + 0 × 2⁶ + 1 × 2⁵ + 1 × 2⁴ + 0 × 2³ + 1 × 2² + 0 × 2¹ + 1 × 2⁰ = 53

The decimal representation of 00110101 is 53.

**Converting 01010101 10101010 to decimal:**

**For the first byte 01010101, we have:**

0 × 2⁷ + 1 × 2⁶ + 0 × 2⁵ + 1 × 2⁴ + 0 × 2³ + 1 × 2² + 0 × 2¹ + 1 × 2⁰ = 85

**For the second byte 10101010, we have:**

1 × 2⁷ + 0 × 2⁶ + 1 × 2⁵ + 0 × 2⁴ + 1 × 2³ + 0 × 2² + 1 × 2¹ + 0 × 2⁰ = 170

So the decimal representation of 01010101 10101010 is 85 170.