

→ DIVIDE & MULTIPLY By 2

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```
int n = 5;
```

```
cout << (n >> 1) << "n"; // Divide by 2
```

```
cout << (n << 1) << "n"; // Multiply by 2
```

→ How is it working!

$$\rightarrow 5 = 101$$

$$\rightarrow 101 \rightarrow (2^2 \times 1 + 2^1 \times 0 + 2^0 \times 1) / 2 \quad (\text{On Right Shift})$$

$$\Rightarrow 10^a \rightarrow (2^1 \times 1 + 2^0 \times 0)$$

$$\rightarrow 10 = 2$$

$$\rightarrow 5 = 101$$

$$\rightarrow 101 \rightarrow (2^2 \times 1 + 2^1 \times 0 + 2^0 \times 1) \times 2 \quad (\text{On Left Shift})$$

$$\Rightarrow 1010 \rightarrow (2^3 \times 1 + 2^2 \times 0 + 2^1 \times 1 + 2^0 \times 0)$$

$$\rightarrow 1010 = 10$$