Binary Shifts

Binary shifts can be used to perform simple multiplication and division by **powers** of 2 (2, 4, 8, 16 etc…)

They work by shifting the binary number along and padding it at one end with 0s

A binary shift is sometimes called a **logical shift** or a **logical binary shift**

Binary Shifts

Left shifts: make the number bigger

Multiply by a factor of 2:

- Left binary shift of 1 = multiply by 2
- Left binary shift of 2 = multiply by 4
- Left binary shift of 3 = multiply by 8

Binary Shifts

Right shifts: make the number smaller

Divide by a factor of 2:

- Right binary shift of 1 = divide by 2
- Right binary shift of 2 = divide by 4
- Right binary shift of 3 = divide by 8

Binary Shifts

Shift of	Left (bigger)	Right (smaller)
1	x 2	÷ 2
2	x 4	÷ 4
3	x 8	÷ 8
4	x 16	÷ 16
5	x 32	÷ 32

NOT 6!