My bs notes

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Contents

1 Introduction

just random ass notes, separted by sections.

2 math

bases

given

$$n = \text{base of number representation}$$
$$x = \text{number that is represented in base } n$$

then $\frac{x}{n}$ shiftes everything in x towards the left by one and $x \cdot n$ shiftes everything to the right.

3 bit shit

3.1 bitwise operator quirks?

In C++, every number is represented in binary, or base 2.

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x<<1
```

3.2 IEEE 754

This is how floats in C++ are stored. Floats are stored in 32 bit. the first bit is sign. The second to ninth bit is exponent, and the 10th to 32th bit is the mantissa. the exponent has an offset of 127, because it needs negative exponents.

$$E = x^{n-127} \tag{1}$$

The mantissa is used to denote the

4 Newton's iteration