3. Normalisation

Why binary/floating-point numbers are stored in normalized form

- To store the maximum range of numbers in the minimum number of bits
- Normalisation minimizes the number of leading zeros/ones represented
- Maximizing the number of significant bits // maximizing the number of precision/accuracy with given number of bits
- Enable large/small numbers to be stored with accuracy
- Avoids the possibility that many numbers have multiple representation
- `--`
- There will be a unique representation for a number
- The format will ensure it will be represented with greatest possible accuracy
- Multiplication is performed more accurately

Problems that can occur when a floating-pointer number is not normalised

- Lost of precision
- Redundant leading zeros in the mantissa
- Lost of the least-significant bits (bits on the right-hand end)
- Multiple representation of a single number