* Input -> transistor -> output
  + ON or OFF (Binary)
    - Store electricity, or don’t.
    - 0 or 1
    - The switches = Transistors have patterns that mean something.
  + Decimal
  + Unary
  + Hexadecimal (16 bits, 0-9 (4bits/digit + abcdef.)
  + Assembly
* Binary language to outputting numbers or readable human text or interpret color or interpret video?
  + Humans see XXX as Xa\*10^3 + Xb+10^2 + Xc\*10^1
  + PCs see XXX as 00…XXX (X=0 or X=1) as 0a\*2^n + 0b\*2^(n-1) + … + Xz\*2^(0)
  + Humans see ABC
  + PCs see 1000001 | 1000010 | 1000011 as in 65 | 66 | 67
    - For this info outputted to me PC would need at least 7\*3=21 bits
      * People speek in bytes so convert. A byte is 8 bits, more commonly used meaning up to 255 in #
  + Ways to make computer interpret A from 00…1000001?
    - Insert a prefix (like in code)
    - Interpret as … file.
    - Graphical user interface

      Description automatically generated with low confidenceOriginal ASCII in 7 bits (now in 8bits to accommodate more languages)
      * What are the first 2 columns of our language?
      * Why isn’t 1 represented by 0…1 if A is 1000001?
        + Because this isn’t decimal, it is ASCII.
    - Unicode, to accommodate emojis, Asian languages, maybe AI and stuff can use 32 bits to accommodate for billions in character/msg diversity.
    - A way for PCs to interpret color is to still assign value to numbers but make them interpret in a framework (type of file, language, software).
      * Each processed image is a dot (pixel) interpreted by RGB mix.
      * Each main colour could be a byte, and the sum could be the final colour
    - Video is just a series of separated inputs at a fast rate.
    - Audio is just a group of separated inputs where each subgroup represents frequency, volume, timbre, duration,
    - Common to say KB (10^3), MB (10^6), GB (10^9), TB (10^12)
  + Language Coding vs PC Interpretation
    - Whatever software (algorithms) written in whatever language, the PC will always revert back to 0 and 1.
    - Variables: Assignment of any relevant input by storage
    - Functions: Actions/Methods
    - Conditions: If, else
    - Boolean expressions: Results (if I am there at 3pm, earlier, or later. there is only one correct answer for each)
    - Loops: Actions/Methods to be repeated
    - A picture containing graphical user interface

      Description automatically generatedConclusion: Where actions cease
    - Generally speaking when copying and pasting previous code, something isn’t quite right.
    - Gotta use the forever loop if I want my algorithms to keep working past the compile button instant when I press it.
    - Building software is thinking of every variable possible, everything that comes to mind.