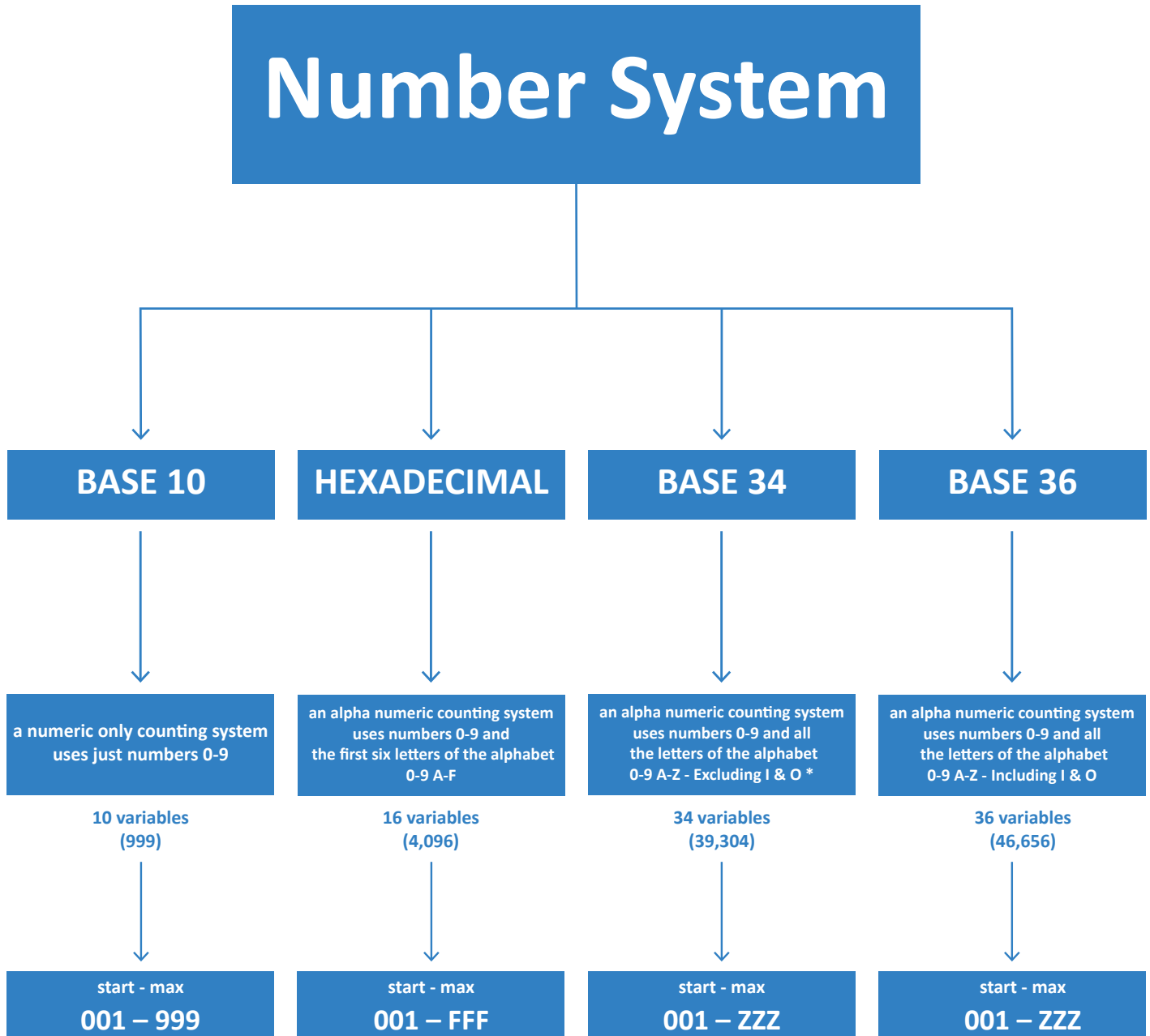## Serial Numbering

Most serial numbers are numeric only, using just a combination of numbers 0-9. But what if space is limited?
Alpha-numeric counting systems are ideal for incorporating the number of variables in a confined space.
Eg: a small area that requires a sequential barcode.
The flow chart below shows the how many different variables are possible from just a 3 digit sequence.

Number System

BASE 10	HEXADECIMAL	BASE 34	BASE 36
a numeric only counting system uses just numbers 0-9	an alpha numeric counting system uses numbers 0-9 and the first six letters of the alphabet 0-9 A-F	an alpha numeric counting system uses numbers 0-9 and all the letters of the alphabet 0-9 A-Z - Excluding I & O *	an alpha numeric counting system uses numbers 0-9 and all the letters of the alphabet 0-9 A-Z - Including I & O
10 variables (999)	16 variables (4,096)	34 variables (39,304)	36 variables (46,656)
start - max **001 – 999**	start - max **001 – FFF**	start - max **001 – ZZZ**	start - max **001 – ZZZ**

Example of Base 34

001, 002, 003, 004, 005, 006, 007, 008, 009, 00A, 00B, 00C, 00D, 00E, 00F, 00G, 00H, 00J, 00K, 00L, 00M, 00N, 00P,
00Q, 00R, 00S, 00T, 00U, 00V, 00W, 00X, 00Y, 00Z, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 01A, 01B etc.

* I & O are difficult to distinguish from the numbers 1 & 0.
** To help distinguish the letter I from number 1, think about using a serif font. To distinguish the letter O from the number 0 the serif font
'Times New Roman' is quite distinct with a properly rounded O and an oval zero. It is also possible to use slashed zeros.