2.(a) No. of edges from each vertex = n
(For n-dimensional cube)
$\therefore$ Total edges = $n \cdot$ No. of vertices
$= n \cdot 2^n$
But each edge is counted twice
$\Rightarrow$ Total edges = $\frac{n \cdot 2^n}{2} = n \cdot 2^{n-1}$

(b) No. of nodes = 2^n
No. of cycles = $n \cdot 2^{n-1} - 2^n + 1$
$= 2^{n-1}(n-2) + 1$

(c) Node analysis = $2^{n-1}(n-2) + 1$ eq^{n}s
$= 2^{99} \cdot (98) + 1$
For loop analysis it is
$2^{n-1} = 2^{100} - 1 = 2^{100} - 1$
$= 2^{99} \cdot 2^1 - 1$
Thus, more eq^{n}s in nodal analysis
$\Rightarrow$ Loop analysis is preferred