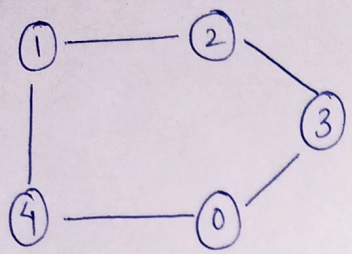
GRAPHS

- **Implementation of Graphs**

(i) **By using Edge list (Not used)**



vertex

0	1	2	3	4

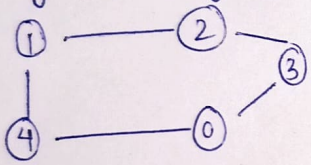
edge

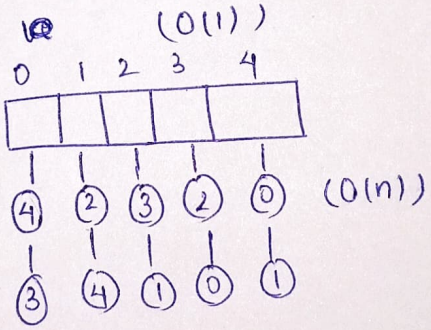
1,2	1,4	4,0	0,3	2,3

Here, if there 100 vertices & if graph is completed.
So the size of edge list will be $\frac{n(n-1)}{2} \rightarrow \frac{100(100-1)}{2} = 4950$

T·C → $O(n^2)$ } Worst Case
and S·C → $O(n^2)$ }

(ii) **By Adjacency list**

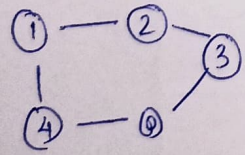




Here, T·C → O(n) } Worst case
S·C → $O(n^2)$ }

S·C → O(V+E) } Average case

(iii) **By Adjacency Matrix**



	0	1	2	3	4
0				T	T
1			T		T
2		T		T	
3	T		T		
4	T	T			

Here, T·C → O(1)
& S·C → $O(n^2)$

In terms of Time → AM > AL
In terms of Space → AL > AM.