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**Lab Task 9**

**Difference between Sub-netting and Super-netting**

**Subnetting:**

* Breaks a large network into smaller, manageable networks (subnets).
* Starts with one large network block and splits it into smaller subnets.
* Helps optimize network traffic, improve security, and allocate IP addresses more efficiently.
* The subnet mask increases, e.g., from /24 to /26.
* **Example**: Dividing 192.168.1.0/24 into four subnets: 192.168.1.0/26, 192.168.1.64/26, etc.

**Supernetting:**

* Combines multiple smaller networks into a single larger network.
* Merges contiguous smaller IP blocks into one larger block.
* Simplifies routing by reducing the size of routing tables.
* The subnet mask decreases, e.g., from /24 to /22.
* **Example**: Merging 192.168.1.0/24 and 192.168.2.0/24 into 192.168.0.0/22.