### UNIT - I

**Reference Book -** [“Virtualization Essentials” by Matthew Portnoy](https://drive.google.com/file/d/1CgUr300SVX2bidyiRMxY8CWqzrj0EGmk/view?usp=drive_link)

#### Chapter 1 - Understanding software virtualization software operations

1. What is meant by "virtualization" in computing, and how does it relate to the abstraction of physical resources?
2. What role does virtualization play in improving efficiency and flexibility in resource utilization?
3. What is the role of a Virtual Machine Monitor (VMM) in virtualization, and how is it similar to or different from a hypervisor?
4. Why is fidelity an important property for a VMM, and how does it impact the experience of running virtual machines?
5. What is meant by "isolation" or "safety" in the context of virtualization, and why is it necessary for proper functioning?
6. Explain different types of virtualization with diagrams.
7. What is Moore’s Law, and who originally proposed it?
8. How has Moore's Law influenced the development of semiconductor technology over the years?
9. What does Moore’s Law predict about the number of transistors on a chip and their impact on computing power?
10. How does Moore’s Law relate to the increase in performance and decrease in cost of electronic devices?
11. How has Moore’s Law contributed to the rapid advancement of computing devices like smartphones, laptops, and servers?
12. In what ways has Moore’s Law driven innovations in fields such as artificial intelligence, big data, and cloud computing?
13. How does Moore’s Law affect the pricing and availability of consumer electronics?
14. What is the concept of "containment" in virtualization, and how did it benefit companies in terms of hardware maintenance and cost savings?
15. Explain Desktop virtualization and application virtualization.

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#### Chapter 2 - Understanding hypervisors

1. What is a hypervisor, and what role does it play in virtualization, explained with diagrams.
2. What is the difference between a Type 1 (bare-metal) hypervisor and a Type 2 (hosted) hypervisor? Give popular examples of both hypervisors.
3. How does a hypervisor manage physical resources like CPU, memory, and storage among multiple virtual machines?
4. What role do hypervisors play in supporting CPU and memory overcommitment in virtualized environments?
5. List out hypervisors provided by VMware, Citrix, Microsoft. Differentiate these hypervisors.

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#### Chapter 3 - Understanding virtual machines

1. What are virtual machines? Explain its directory structure (file system) in detail.
2. Examine CPU, Memory, Network Resources, and storage in virtual machines.
3. How a VM works, explain with a diagram.
4. What is the difference between VM clone, snapshot and template.
5. In What scenarios we should use VM template and snapshot.
6. Write a note on OVF and containers.

### UNIT - 2

**Reference Book -** “[Mastering VMware vSphere 6.7](https://drive.google.com/file/d/115G7VrsUW8RzXU5PaRoOWjQx3BmkZL_z/view?usp=drive_link)

#### Chapter 1 - Introducing VMware vSphere 6.7

1. List out different products and features provided in vSphere 6.7