**1. What is the primary function of the Central Processing Unit (CPU) in a computer?**

**a) Store data  
b) Execute instructions  
c) Display graphics  
d) Manage network connections**

**2. Which component temporarily stores data for the CPU to process?**

**a) Hard Disk Drive (HDD)  
b) Solid State Drive (SSD)  
c) Random Access Memory (RAM)  
d) Power Supply Unit (PSU)**

**3. What does SSD stand for in computer hardware?**

**a) Solid Storage Disk  
b) Sequential Storage Device  
c) Solid State Drive  
d) Storage Speed Device**

**4. Which operating system is known for its stability and open-source nature?**

**a) Windows  
b) macOS  
c) Linux  
d) Android**

**5. What is the function of the Control Unit (CU) in the CPU?**

**a) Perform arithmetic calculations  
b) Control data flow within the CPU  
c) Store permanent data  
d) Manage power supply**

**6. Which type of cloud computing service provides virtualized computing resources over the internet?**

**a) SaaS  
b) PaaS  
c) IaaS  
d) FaaS**

**7. In Linux, which command is used to display the current directory?**

**a) ls  
b) pwd  
c) cd  
d) mkdir**

**8. What is the purpose of the kernel in an operating system?**

**a) Provide a graphical user interface  
b) Manage system resources and processes  
c) Store user data  
d) Display output on the monitor**

**9. Which of the following is a type of non-volatile storage?**

**a) RAM  
b) CPU Cache  
c) SSD  
d) Registers**

**10. What does the 'chmod' command do in Linux?**

**a) Change the file owner  
b) Change file permissions  
c) Display the file contents  
d) Move a file to a different directory**

**11. Which cloud computing model provides software applications over the internet?**

**a) IaaS  
b) PaaS  
c) SaaS  
d) FaaS**

**12. What is the function of an operating system?**

**a) Manage hardware and software resources  
b) Run only one application at a time  
c) Provide internet connectivity  
d) Encrypt all files by default**

**13. What command in Linux is used to view the content of a file?**

**a) vi  
b) touch  
c) cat  
d) mv**

**14. Which of the following is a benefit of cloud computing?**

**a) Limited scalability  
b) High initial cost  
c) Pay-as-you-go pricing  
d) Requires local servers**

**15. In cloud computing, what does 'PaaS' stand for?**

**a) Platform as a Service  
b) Product as a Service  
c) Private as a Service  
d) Processor as a Service**

**16. What does the command 'mkdir' do in Linux?**

**a) List directory contents  
b) Create a new directory  
c) Change file permissions  
d) Display the current directory**

**17. Which of the following is a type of server used in cloud computing?**

**a) Personal Computer  
b) Mainframe  
c) Virtual Machine  
d) Embedded System**

**18. What is the role of the Arithmetic Logic Unit (ALU) in a CPU?**

**a) Control data flow  
b) Perform arithmetic and logical operations  
c) Store temporary data  
d) Manage input/output devices**

**19. Which Linux command is used to change the current directory?**

**a) ls  
b) pwd  
c) cd  
d) mv**

**20. What is a Virtual Machine (VM) in the context of cloud computing?**

**a) A physical server  
b) A software emulation of a physical computer  
c) A type of networking hardware  
d) A method for encrypting data**

**21. Which of the following is NOT a type of computer?**

**a) Supercomputer  
b) Mainframe  
c) Smartphone  
d) Flash Drive**

**22. Why is public key authentication considered more secure than password-based authentication for Linux servers?**

* **A. It's faster to type in a key than a password.**
* **B. Public keys are easier to remember than passwords.**
* **C. Public key cryptography is mathematically complex, making it harder to crack.**
* **D. Public keys can be easily shared with others**

**23. Which Linux command is used to create a new user?**

**a) adduser  
b) useradd  
c) mkuser  
d) newuser**

**24. What does the 'mv' command do in Linux?**

**a) Create a directory  
b) Delete a file  
c) Move or rename a file  
d) Display file contents**

**25. What is an example of an Embedded System?**

**a) Desktop PC  
b) Supercomputer  
c) Microwave oven control panel  
d) Cloud storage service**

**26. Which Linux command is used to change the password for a user?**

**a) passwd  
b) chpasswd  
c) changepwd  
d) setpass**

**27. What is the primary benefit of using a Virtual Machine in cloud computing?**

**a) Reduced data transfer speeds  
b) Increased power consumption  
c) Flexibility to run different operating systems  
d) Requires dedicated physical hardware**

**28. Which of the following is NOT a function of an operating system kernel?**

**a) Managing memory  
b) Handling device drivers**

**c) Running user interfaces  
d) Scheduling processes**

**29. What is the difference between public and private cloud?**

**a) Public cloud is more secure  
b) Private cloud is accessible over the internet  
c) Public cloud is managed by a third party, private cloud is managed internally  
d) Private cloud has less scalability**

**30. What is the purpose of a cache memory in a CPU?**

**a) Store permanent data  
b) Store frequently accessed data for quick access  
c) Control input/output operations  
d) Execute complex calculations**

**31. What is a hypervisor?**

* **A. A type of operating system**
* **B. Software that creates and manages virtual machines**
* **C. A network device**
* **D. A storage device**

**VM (Virtual Machine)**

**32. What is a virtual machine?**

* **A. A physical computer**
* **B. A software-based emulation of a computer**
* **C. A type of network device**
* **D. A storage device**

**33. What is the process of creating a virtual machine called?**

* **A. Virtualization**
* **B. Containerization**
* **C. Cloning**
* **D. Provisioning**

**34. What is the primary function of a load balancer?**

* **A. To balance the load of a single server**
* **B. To distribute incoming traffic across multiple servers**
* **C. To store data**
* **D. To protect servers from attacks**

**35. Where is the default location of the SSH config file on a Linux system?**

* **A. /etc/ssh/sshd\_config**
* **B. ~/.ssh/config**
* **C. /root/.ssh/config**
* **D. /var/lib/ssh/config**

**36. What is a security group in AWS?**

* **A. A type of firewall for EC2 instances**
* **B. A network device**
* **C. A storage device**
* **D. A load balancing algorithm**

**37. How do security groups control traffic?**

* **A. By inspecting packet content**
* **B. By filtering traffic based on source, destination, port, and protocol**
* **C. By encrypting traffic**
* **D. By blocking all traffic by default**

**38. Which of the following is NOT a component of a security group rule?**

* **A. Protocol**
* **B. Port range**
* **C. IP address range**
* **D. Operating system**

**39. Can multiple security groups be associated with an EC2 instance?**

* **A. Yes**
* **B. No**
* **C. Only in specific cases**
* **D. Depends on the instance type**

**40. What does the IdentityFile directive specify?**

* **A. The path to the public SSH key**
* **B. The path to the private SSH key**
* **C. The password for SSH authentication**
* **D. The passphrase for the SSH key**

**1. What is the primary function of the Central Processing Unit (CPU) in a computer?**

a) Store data  
b) Execute instructions  
c) Display graphics  
d) Manage network connections  
**Answer:** b) Execute instructions

**2. Which component temporarily stores data for the CPU to process?**

a) Hard Disk Drive (HDD)  
b) Solid State Drive (SSD)  
c) Random Access Memory (RAM)  
d) Power Supply Unit (PSU)  
**Answer:** c) Random Access Memory (RAM)

**3. What does SSD stand for in computer hardware?**

a) Solid Storage Disk  
b) Sequential Storage Device  
c) Solid State Drive  
d) Storage Speed Device  
**Answer:** c) Solid State Drive

**4. Which operating system is known for its stability and open-source nature?**

a) Windows  
b) macOS  
c) Linux  
d) Android  
**Answer:** c) Linux

**5. What is the function of the Control Unit (CU) in the CPU?**

a) Perform arithmetic calculations  
b) Control data flow within the CPU  
c) Store permanent data  
d) Manage power supply  
**Answer:** b) Control data flow within the CPU

**6. Which type of cloud computing service provides virtualized computing resources over the internet?**

a) SaaS  
b) PaaS  
c) IaaS  
d) FaaS  
**Answer:** c) IaaS

**7. In Linux, which command is used to display the current directory?**

a) ls  
b) pwd  
c) cd  
d) mkdir  
**Answer:** b) pwd

**8. What is the purpose of the kernel in an operating system?**

a) Provide a graphical user interface  
b) Manage system resources and processes  
c) Store user data  
d) Display output on the monitor  
**Answer:** b) Manage system resources and processes

**9. Which of the following is a type of non-volatile storage?**

a) RAM  
b) CPU Cache  
c) SSD  
d) Registers  
**Answer:** c) SSD

**10. What does the 'chmod' command do in Linux?**

a) Change the file owner  
b) Change file permissions  
c) Display the file contents  
d) Move a file to a different directory  
**Answer:** b) Change file permissions

**11. Which cloud computing model provides software applications over the internet?**

a) IaaS  
b) PaaS  
c) SaaS  
d) FaaS  
**Answer:** c) SaaS

**12. What is the function of an operating system?**

a) Manage hardware and software resources  
b) Run only one application at a time  
c) Provide internet connectivity  
d) Encrypt all files by default  
**Answer:** a) Manage hardware and software resources

**13. What command in Linux is used to view the content of a file?**

a) vi  
b) touch  
c) cat  
d) mv  
**Answer:** c) cat

**14. Which of the following is a benefit of cloud computing?**

a) Limited scalability  
b) High initial cost  
c) Pay-as-you-go pricing  
d) Requires local servers  
**Answer:** c) Pay-as-you-go pricing

**15. In cloud computing, what does 'PaaS' stand for?**

a) Platform as a Service  
b) Product as a Service  
c) Private as a Service  
d) Processor as a Service  
**Answer:** a) Platform as a Service

**16. What does the command 'mkdir' do in Linux?**

a) List directory contents  
b) Create a new directory  
c) Change file permissions  
d) Display the current directory  
**Answer:** b) Create a new directory

**17. Which of the following is a type of server used in cloud computing?**

a) Personal Computer  
b) Mainframe  
c) Virtual Machine  
d) Embedded System  
**Answer:** c) Virtual Machine

**18. What is the role of the Arithmetic Logic Unit (ALU) in a CPU?**

a) Control data flow  
b) Perform arithmetic and logical operations  
c) Store temporary data  
d) Manage input/output devices  
**Answer:** b) Perform arithmetic and logical operations

**19. Which Linux command is used to change the current directory?**

a) ls  
b) pwd  
c) cd  
d) mv  
**Answer:** c) cd

**20. What is a Virtual Machine (VM) in the context of cloud computing?**

a) A physical server  
b) A software emulation of a physical computer  
c) A type of networking hardware  
d) A method for encrypting data  
**Answer:** b) A software emulation of a physical computer

**21. Which of the following is NOT a type of computer?**

a) Supercomputer  
b) Mainframe  
c) Smartphone  
d) Flash Drive  
**Answer:** d) Flash Drive

**22. What is the purpose of a security group in AWS?**

a) Encrypt data at rest  
b) Manage network traffic rules  
c) Store user credentials  
d) Provide application development tools  
**Answer:** b) Manage network traffic rules

**23. Which Linux command is used to create a new user?**

a) adduser  
b) useradd  
c) mkuser  
d) newuser  
**Answer:** b) useradd

**24. What does the 'mv' command do in Linux?**

a) Create a directory  
b) Delete a file  
c) Move or rename a file  
d) Display file contents  
**Answer:** c) Move or rename a file

**25. What is an example of an Embedded System?**

a) Desktop PC  
b) Supercomputer  
c) Microwave oven control panel  
d) Cloud storage service  
**Answer:** c) Microwave oven control panel

**26. Which Linux command is used to change the password for a user?**

a) passwd  
b) chpasswd  
c) changepwd  
d) setpass  
**Answer:** a) passwd

**27. What is the primary benefit of using a Virtual Machine in cloud computing?**

a) Reduced data transfer speeds  
b) Increased power consumption  
c) Flexibility to run different operating systems  
d) Requires dedicated physical hardware  
**Answer:** c) Flexibility to run different operating systems

**28. Which of the following is NOT a function of an operating system kernel?**

a) Managing memory  
b) Handling device drivers  
c) Running user interfaces  
d) Scheduling processes  
**Answer:** c) Running user interfaces

**29. What is the difference between public and private cloud?**

a) Public cloud is more secure  
b) Private cloud is accessible over the internet  
c) Public cloud is managed by a third party, private cloud is managed internally  
d) Private cloud has less scalability  
**Answer:** c) Public cloud is managed by a third party, private cloud is managed internally

**30. What is the purpose of a cache memory in a CPU?**

a) Store permanent data  
b) Store frequently accessed data for quick access  
c) Control input/output operations  
d) Execute complex calculations  
**Answer:** b) Store frequently accessed data for quick access

**1. What is a hypervisor?**

* A. A type of operating system
* B. Software that creates and manages virtual machines
* C. A network device
* D. A storage device **Answer:** B

**2. Which type of hypervisor runs directly on the host hardware?**

* A. Type 1
* B. Type 2
* C. Both A and B
* D. Neither A nor B **Answer:** A

**VM (Virtual Machine)**

**3. What is a virtual machine?**

* A. A physical computer
* B. A software-based emulation of a computer
* C. A type of network device
* D. A storage device **Answer:** B

**4. What is the process of creating a virtual machine called?**

* A. Virtualization
* B. Containerization
* C. Cloning
* D. Provisioning **Answer:** A

**Load Balancer**

**5. What is the primary function of a load balancer?**

* A. To balance the load of a single server
* B. To distribute incoming traffic across multiple servers
* C. To store data
* D. To protect servers from attacks **Answer:** B

**6. Which type of load balancer operates at the application layer?**

* A. Network Load Balancer
* B. Application Load Balancer
* C. Classic Load Balancer
* D. All of the above **Answer:** B

**Security Group**

**7. What is a security group in AWS?**

* A. A type of firewall for EC2 instances
* B. A network device
* C. A storage device
* D. A load balancing algorithm **Answer:** A

**8. How do security groups control traffic?**

* A. By inspecting packet content
* B. By filtering traffic based on source, destination, port, and protocol
* C. By encrypting traffic
* D. By blocking all traffic by default **Answer:** B

**9. Which of the following is NOT a component of a security group rule?**

* A. Protocol
* B. Port range
* C. IP address range
* D. Operating system **Answer:** D

**10. Can multiple security groups be associated with an EC2 instance?**

* A. Yes
* B. No
* C. Only in specific cases
* D. Depends on the instance type **Answer:** A