**Q1. The Node.js framework treats HTTP requests at a lower network level. In contrast, Express implements an app class for what purpose?**  
A. Lookup web services  
B. Access a URL  
C. Map to a web resource path  
D. Parse through a network path

**Q2. To package a python script in a package to be able to import and use it, which of the following is required?**  
A. The python script should be packaged in a directory with \_\_init\_\_.py in the same directory.  
B. The methods in the script should be defined as public methods.  
C. A folder with server.py  
D. import sys as the first line of code in the python script.

**Q3. Which of the following statements about a database is/are correct?**  
A. A database is a logically coherent collection of data with some inherent meaning.  
B. All of the above.  
C. Only SQL can be used to query data in a database.  
D. Data can only be added and queried from a database but not modified.

**Q4. Is it possible to run completely different operating systems on Virtual Machines (VMs) that are on a single host? If yes, what makes this possible?**  
A. No, it is not possible - VMs are software-based versions of a single host. They cannot have different environments from one another.  
B. Yes. Virtualization makes it possible - to have VMs, running different operating systems, on a single host.  
C. Yes. Containerization makes it possible - to have VMs that are unique physical entities, so you can have completely different Operating Systems on them.  
D. No, it is not possible - A single host can only work as one single virtual environment, and can, therefore, have only one environment.

**Q5. When using the DELETE statement to remove data from a database, what does the WHERE clause do?**  
A. It indicates the condition under which the data should be deleted; for example, which rows should have their contents deleted.  
B. It specifies the server where the database is located.  
C. It specifies where to find the data to delete, by column number and row number.  
D. It limits the amount of data that is deleted to a certain number of characters.

**Q6. One method can have only one route decorator. True or False?**  
A. True  
B. False

**Q7. In Python, what is the result of the following operation: '1'+'2'?**  
A. 1+2  
B. '3'  
C. 3  
D. '12'

**Q8. What tasks do hypervisors accomplish? Select two.**  
A. Separates VMs logically and assigns each a share of the underlying computing power, memory, and storage.  
B. Enable multiple operating systems to run alongside each other, sharing the same physical computing resources.  
C. Facilitate access to mainframes for multiple users to access the same data storage layer.  
D. Scale on demand to support fluctuating workloads.

**Q9. Which of the following methods are supported in an API endpoint created with Flask?**  
A. Only 1, 3, and 4  
B. Only 1 and 4  
C. All 4 are supported.  
D. Only 1 and 4  
E. Only 1, 2, and 3

**Q10. What happens if you make a change on a repository branch that you don't own?**  
A. GitHub issues a push request for the owner.  
B. GitHub makes a pull request.  
C. GitHub generates an error message.  
D. GitHub undoes the changes.

**Q11. Which of these are full-service cloud platforms?**  
A. IBM Cloud  
B. Amazon Web Services  
C. Google Cloud Platform  
D. Microsoft Azure

**Q12. React is an open-source library created and maintained by Facebook and community developers. What is it mainly used to build?**  
A. Accessibility messages  
B. Complex UIs  
C. Error messages  
D. AI questions

**Q13. Facebook provides the Create React App to simplify creating React apps. What must be installed in order to run npx create-react-app with the name of the app you want to create?**  
A. Node.js  
B. JavaScript  
C. The XML editor  
D. Facebook

**Q14. Which of the following adds interactivity and dynamic content to a website?**  
A. JavaScript  
B. HTML  
C. CSS  
D. Git

**Q15. Select ALL of the following which are true in describing a fluid and/or fixed layout.**  
A. Fixed layouts are independent of screen sizes, and their values do not change.  
B. Elements in a fluid layout have flexible widths and heights.  
C. Fluid layouts should always be used when designing a website.  
D. A fixed layout specifies element sizes using percentages.

**Q16. The prefix to the filename where you write the test cases is:**  
A. test  
B. It has no prefix  
C. function\_test  
D. unit\_test

**Q17. The python code will throw a runtime error if pylint is not run before executing the file.**  
A. True  
B. False

**Q18. What is the responsibility of the Front End in a Serverless Architecture?**  
A. Host business logic  
B. Provide scaling  
C. Host static content and scripts  
D. Store data

**Q19. What does a control plane do?**  
A. Assigns newly created Pods to nodes  
B. Maintains the intended Cluster state by making decisions about the Cluster and detecting and responding to events in the Cluster  
C. Shares all the resources of a node  
D. Contains Pods

**Q20. Which one is the key characteristic of a function in FaaS model?**  
A. Keep running even when there are no requests  
B. Let you define your infrastructure  
C. Be stateful  
D. Scale automatically and independently as required

**Q21. When managing forks, which command can you use to fetch and merge the remote branch?**  
A. git merge upstream/master  
B. git pull downstream  
C. git fetch upstream  
D. git pull upstream

**Q22. Which is one of the differences between the Django MVT and the MVC design pattern?**  
A. MVC has a Model  
B. The Django framework or Django server itself acts as a controller  
C. MVT has a View  
D. There is no difference

**Q23. What quality makes it possible for you to run JavaScript applications without compiling?**  
A. All modern browsers support JavaScript.  
B. You can use a text editor to develop JavaScript applications.  
C. The language syntax resembles Java.  
D. JavaScript is an interpreted language.

**Q24. What are the two main application-building methods supported in IBM Cloud Code Engine?**  
A. Building container image with DockerHub and Buildpack.  
B. Building container image with Dockerfile and Buildpack.  
C. Building container image with Github Action and DockerHub.  
D. Building container image with Dockerpack and Buildpack.

**Q25. What is automated bin packing?**  
A. A Kubernetes capability that mounts a chosen storage system  
B. A Kubernetes capability that applies automatic changes  
C. A Kubernetes capability that scales workloads based on metrics or commands  
D. A Kubernetes capability that performs container auto-placement based on resource requirements and conditions without sacrificing high availability

**Q26. Do containers have to be on a specific operating system or platform?**  
A. No, containers work on many types of operating systems and platforms.  
B. Yes, containers only work on Linux-based operating systems and platforms.  
C. No, containers don't run on operating systems or platforms.  
D. Yes, containers only work on Windows-based operating systems and platforms.

**Q27. What are the three deployment modes of IBM Cloud Code Engine?**  
A. (1) Build and deploy applications from source code. (2) Deploy container image-based applications and (3) REST APIs  
B. (1) SCP, (2) TCP, and (3) HTTP  
C. (1) Build and deploy applications from source code, (2) Deploy container image-based applications, and (3) Run Jobs  
D. (1) Run REST APIs, (2) Build and Run Source Code, and (3) Run Jobs

**Q28. Which of the following statements embeds an image in an HTML document?**  
A. <img src="image URL">  
B. <img href="image URL">image name</img>  
C. <image>link\_to\_image</image>  
D. <figure src="image URL">image name</figure>

**Q29. On GitHub, what are commits?**  
A. Merges  
B. Saved changes  
C. Tags  
D. Pull requests

**Q30. Which function is invoked right after the component is mounted on the DOM?**  
A. Render  
B. componentWillMount  
C. componentWillUnmount  
D. componentDidMount

**Q31. Which of the following is a back-end technology?**  
A. CSS  
B. HTML  
C. Web API  
D. Browser

**Q32. Which of the following tags define a caption for a <fieldset> element?**  
A. <label>  
B. <title>  
C. <legend>  
D. <caption>

**Q33. How do you create a ReplicaSet from scratch?**  
A. Apply a YAML file with the kind attribute set to ReplicaSet.  
B. Use the get pods command.  
C. Use the scale command to scale the deployment.  
D. Apply a JSON file that includes the number of desired replicas.

**Q34. Which Node.js package can parse a string of XML elements into a JavaScript object?**  
A. XML-JS  
B. async.js  
C. express.js  
D. xml2js

**Q35. You need to run three commands to push local changes to the GitHub repository. What is the third command?**  
A. git remove -v  
B. git push  
C. git add  
D. git commit -m

**Q36. What is the value of Z after the following code is run?**  
X=np.array([[1,0], [0,1]])  
Y=np.array([[0, 1],[1,0]])  
Z=X+Y  
A. array([[1, 0], [0, 1]])  
B. array([[1, 0], [1, 1]])  
C. array([[1, 1], [1, 1]])  
D. array([[0, 1], [1, 1]])

**Q37. What line of code would produce the following: array([11, 11, 11, 11, 11])?**  
A. a=np.array([1, 2, 1, 1, 1]) a+10  
B. a=np.array([1, 1, 1, 1, 1]) a+10  
C. a=np.array([1, 1, 1, 1, 1]) 11-a

**Q38. When does a component lifecycle start?**  
A. When components are created or mounted on the DOM  
B. When a user clicks the mouse or presses the keyboard  
C. When the component is removed from the DOM  
D. When the state of the component first changes

**Q39. Which phase of the Twelve-Factor Methodology contains Port binding?**  
A. Deploy  
B. Code  
C. Configure  
D. Operate

**Q40. What type of version control system is Git?**  
A. Centralized  
B. Remote  
C. Distributed  
D. Local

**Q41. What does a ConfigMap do?**  
A. Verifies that a Secret was created  
B. Mounts a file using the volumes plugin  
C. Provides sensitive information to your application  
D. Provides variables for your application

**Q42. What is EcmaScript or ES?**  
A. A programming organization  
B. A communication standard  
C. A standardized name for JavaScript  
D. A regulated name for JSON

**Q43. What are some of the cloud benefits that make it lower-risk for enterprises to adopt cloud? Select two.**  
A. The speed with which applications can be up and running on the cloud versus months on traditional platforms, means enterprises can experiment, fail fast, learn, and course correct without setting them back significantly.  
B. The pay-as-you-go model allows enterprises to experiment with technologies as opposed to making long-term decisions based on little or no trial.  
C. Diversity of standardization in how the constantly evolving technologies integrate and interoperate.  
D. Data security associated with loss or unavailability of data causing business disruption

**Q44. What best describes the network operations that Node.js makes?**  
A. Non-blocked operations return in a synchronized manner with added processing time on the server  
B. Blocked operations return immediately without added processing time on the server  
C. Applications block every network operation to complete at the same time on the server  
D. Non-blocked operations return immediately without added processing time on the server

**Q45. When you create an object (an instance of a class) in Django, what does it represent?**  
A. Database table  
B. Table cell  
C. Table row  
D. Table column

**Q46. Which SELECT statement eliminates duplicates in the result set?**  
A. SELECT country FROM author LIMIT DUPLICATES  
B. SELECT DISTINCT (country) FROM author  
C. None of the above  
D. SELECT country FROM author ORDER BY 1

**Q47. How are comments written in HTML?**  
A. <!-- This is a comment -->  
B. /\*This is a comment\*/  
C. #This is a comment  
D. This is a comment

**Q48. What do the following lines of code do?**  
with open("Example1.txt","r") as file1:  
FileContent = file1.read()  
print(FileContent)  
A. Append the file "Example1.txt"  
B. Write to the file "Example1.txt"  
C. Read the file "Example1.txt"

**Q49. What is the output of the following code?**  
x="Go"  
if(x=="Go"):  
print('Go')  
else:  
print('Stop')  
print('Mike')  
A. Mike  
B. Stop Mike  
C. Mike Mike  
D. Go Mike  
E. Go Go

**Q50. Each Cloud Region can have multiple Zones (also known as Availability Zones). What are Zones?**  
A. Unique physical locations with one or more data centers  
B. Geographic area or region where cloud provider's infrastructure is clustered  
C. Standardized containers of computing resources  
D. Single shared point of failure

**Q1. Which one of the following statements is true about communication in a RESTful API?**  
A. Each request does not contain all information.  
B. Session state is kept entirely on the REST API.  
C. A request can take advantage of any stored context on the server.  
D. Resources are uniquely identified at individual endpoints.

**Q2. What is the result of running the following lines of code?**

class Points(object):

def \_\_init\_\_(self, x, y):

self.x = x

self.y = y

def print\_point(self):

print('x', self.x, ' y=', self.y)

p1 = Points("A", "B")

p1.print\_point()

content\_copy Use code [with caution](https://support.google.com/legal/answer/13505487).Python

A. X = B, y = A  
B. X = A, y = B  
C. X = A  
D. Y = B

**Q3. Which of the following is a difference between ES and CommonJS modules?**  
A. CommonJS modules are written in JavaScript whereas ES modules are not.  
B. ES modules use the import() statement whereas CommonJS modules use require().  
C. CommonJS module files use a .mjs extension whereas ES modules use .js.  
D. CommonJS is a JavaScript language whereas ES is a module specification.

**Q4. Which semantic tag is used to display any content which is indirectly related to the main content of the document?**  
A. <details>  
B. <aside>  
C. <section>  
D. <article>

**Q5. What is the correct syntax for inserting data into a table named Members?**  
A. INSERT INTO MEMBERS (MEMBER\_ID, LASTNAME, FIRSTNAME, OCCUPATION) VALUES ('1432', 'Smith', 'Charles')  
B. INSERT INTO MEMBERS (MEMBER\_ID, LASTNAME, FIRSTNAME) VALUES ('1432', 'Smith', 'Charles')  
C. INSERT MEMBERS (MEMBER\_ID, LASTNAME, FIRSTNAME) VALUES ('1432', 'Smith', 'Charles')  
D. INSERT INTO MEMBERS (MEMBER\_ID, LASTNAME, FIRSTNAME) VALUES (MEMBER\_ID is 345DT2000, LASTNAME is Smith, FIRSTNAME is Charles)

**Q6. Which of the following ways of applying CSS has the highest priority, and will override the others?**  
A. Inline CSS, placed directly in each HTML element  
B. Internal CSS, applied within the <style> attribute in HTML markup  
C. Whichever way is specified in the HTML markup  
D. An external CSS file

**Q7. Which of the following are examples of single-tenant compute environments in the Cloud? Select two.**  
A. Bare Metal servers  
B. Reserved virtual server  
C. Dedicated host  
D. Transient virtual servers

**Q8. In the US National Institute of Standards and Technology (NIST) definition of "cloud computing," what does the statement "shared pool of configurable computing resources" include?**  
A. Data security, associated with loss or unavailability of data causing business disruption  
B. Five essential characteristics, three deployment models, three service models  
C. Leverage cloud services over the open internet on hardware owned by the cloud provider  
D. Networks, servers, storage, applications, and services

**Q9. What is a repository?**  
A. A basic unit of storage in Git that cannot be changed  
B. A collection of user accounts that are connected to a pull request  
C. A data structure that stores documents and source code  
D. A plain-text file that explains the purpose of a project

**Q10. What do you use to pass data from child components to parent components in React?**  
A. Callback  
B. Render  
C. Method  
D. State

**Q11. Which component of services design in an SOA architecture defines how the service provider and consumer should interact?**  
A. Interface  
B. Implementation  
C. Contract  
D. Own storage

**Q12. What are three commonly used commands for working with remote repositories?**  
A. create, delete, copy  
B. open, edit, push  
C. open, close, send  
D. push, pull, fetch

**Q13. How is GitHub related to Git?**  
A. GitHub is an open source tool used to create Git.  
B. GitHub is a main section in the Git project workflow.  
C. GitHub is a program required for version control on Git.  
D. GitHub is an online hosting service for Git repositories.

**Q14. What do you use to make a call to an external server asynchronous?**  
A. Promises  
B. State  
C. Method  
D. Props

**Q15. Before the Node.js framework receives the HTTP response message from the remote web server, it immediately returns a result for the http.request function call. What does this result state?**  
A. The return message will be sent successfully.  
B. The callback function was called successfully.  
C. A request is in progress.  
D. The response message will be sent successfully.

**Q16. Which three statements are true?** (Three answers needed)  
A. The oc lets you work directly with project source code using command scripts.  
B. The oc lets you script OpenShift operations.  
C. The oc and kubectl binary offer different capabilities.  
D. The oc lets you manage projects during restricted bandwidth or availability of the web console.

**Q17. What are the three Build triggers used in OpenShift?** (Three answers needed)  
A. Webhook  
B. Configuration change  
C. ImageStream  
D. Image change

**Q18. In accordance with pylint which of the following is a valid method name?**  
A. GetUserName  
B. get\_user\_name  
C. GET\_USER\_NAME  
D. getUserName()

**Q19. Cloud Native Computing Foundation (CNCF) defines 'serverless' as the concept of building applications that do not require \_\_\_\_\_\_ management.**  
A. database  
B. network  
C. backend  
D. server

**Q20. In what three environments can container orchestration be implemented?** (Three answers needed)  
A. Public cloud environments  
B. Private cloud environments  
C. A single device  
D. On-premises environments

**Q21. Which of the following applications intercepts the call when JavaScript sends a web service request to a Node.js server?**  
A. CSS  
B. Enterprise Java  
C. REST Web Service  
D. JSON

**Q22. Consider the following dictionary: {"The Bodyguard":"1992", "Saturday Night Fever":"1977"}. Select the values.** (Two answers needed)  
A. "The Bodyguard"  
B. "Saturday Night Fever"  
C. "1992"  
D. "1977"

**Q23. Your code has the following method: def returnString(): return "Hello". What will be the outcome of the test: assertNotEqual(returnString(), "How are you", "They are equal")?**  
A. The test will pass.  
B. The test will fail.  
C. The test will not run as the method name does not qualify in static code analysis.  
D. The code will throw a runtime error as the values are not equal.

**Q24. What is the below line of code referred to as? @app.route("/name")**  
A. Method definition  
B. Route decorator  
C. Flask method  
D. Get Request

**Q25. What are three parts of Docker's underlying technology?** (Three answers needed)  
A. The Go programming language  
B. GitHub  
C. Namespaces  
D. Linux kernel features

**Q26. What is an API?**  
A. Code that works with data and provides a mechanism for software to access resources from the back-end.  
B. A practice for dev-ops teams enabling developers to deliver frequent changes reliably.  
C. A framework which dictates the architecture of your program and controls the program flow.  
D. A version control system used to manage your code.

**Q27. In a microservice architecture, you should \_\_\_\_\_\_.**  
A. Create interdependency among services  
B. Scale all services together  
C. Use a different technology stack for each service  
D. Deploy all services together

**Q28. Which statement regarding the jsonwebtoken.verify() method is true?**  
A. It is used to return an HTTP status code  
B. It is used to return a response  
C. It is used to generate a JSON web token  
D. It is used to verify a JSON web token

**Q29. To delete() records in a database, you call the Delete method on which objects?**  
A. Child object or lookup parameter  
B. Model object or QuerySet  
C. Foreign Key field or Many-to-many field  
D. Filter chain or primitive field

**Q30. What do you use to pass data from parent components to child components in React?**  
A. Callback  
B. State  
C. Method  
D. Props

**Q31. What does Django create when you create a forward relationship?**  
A. Explicit reference  
B. Comparative clause  
C. Backward access  
D. Django doesn't automatically create anything

**Q32. In a library entity-relationship data model, a book is an example of \_\_\_\_\_\_\_, and the book's title and publication date are examples of \_\_\_\_\_\_\_.**  
A. a row, columns  
B. an entity, attributes  
C. an entity, properties  
D. an attribute, entities

**Q33. What is the method defined in the class Rectangle used to draw the rectangle?** (Code snippet provided, showing drawRectangle method)  
A. drawRectangle  
B. import matplotlib  
C. class Rectangle  
D. plt.axis('scaled')

**Q34. What is the purpose of a license file in GIT?**  
A. Record all changes made to a repository.  
B. Describe the purpose of the project.  
C. Establish secure remote login between computers.  
D. Express how people can use your code.

**Q35. What applications are a good fit for Docker?**  
A. Applications with rich GUI features  
B. Applications with high performance requirements  
C. Applications that need a lot of security  
D. Applications that require flexible scaling and portability

**Q36. Consider the tuple A=((11,12), [21,22]), that contains a tuple and list. What is the result of the operation A[0][1]?**  
A. 11  
B. 12  
C. 21  
D. 22

**Q37. Which of the following is true about the following line of code? @api.route("/records/<name>", methods=["POST","GET"]) (Select three)**  
A. This endpoint supports GET requests.  
B. This endpoint supports POST requests.  
C. This endpoint supports UPDATE requests.  
D. The value of name is variable.

**Q38. Three files are created by Django after you've created a project. Which of these files is a command-line interface used to interact with the Django project?**  
A. manage.py  
B. settings.py  
C. access.py  
D. urls.py

**Q39. What parameter is optional in an HTTP request?**  
A. Event variable parameter  
B. Location function parameter  
C. Resource variable parameter  
D. Callback function parameter

**Q40. Which of the following is correct about Flask?**  
A. It is a database framework  
B. It is a micro web framework  
C. It is an external Java framework  
D. It is a full-stack application framework