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1. Federated Learning (FL) aims to train a ML model in a centralized manner while keeping the data decentralized. The stmt..

☒ a) True

b) False

2. Choose the incorrect stmts in context of federated averaging (FedAvg) algo.

☒ a) In each round of FedAvg server performs aggregation before clients train.

b) In each round of FedAvg, aggregation is performed over model parameters.

c) The aggregation server is responsible to initialize the model at the beginning of FedAvg algo.

☒ d) A client sends its copy of the model to every other client at the end of each round.



3) When local datasets are —, FedAvg suffers from client drift.

- a. Non-I.I.D
- b. Very large in size
- c. Identical to each other
- d. Independent of each other

4. Select the scenarios where the use of Federated (team) learning is justifiable

- a. Data privacy is needed.
- b. Clients have no connectivity to cloud
- c. Cost of data transfer is very high
- d. Performance of an existing model.

5. Which of the following represent the parameter aggregation operation that is performed by the central server in each round of federated learning?

a.  $w_{t+1} \leftarrow w_{t+1} - \eta \nabla L(w; b)$

b.  $w_{t+1} \leftarrow \sum_{k=1}^K \frac{n_k}{n} w_{t+1}^k$

c. All

d. None



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6. The Kalman filter is used in autonomous driving for —

- a. Reliability
- b. Security
- c. Decision making
- d. None

7. — acts as an interface b/w the app. & a device that is sending sensor data to the cloud.

- a. AWS IoT device defender
- b. AWS IoT core
- c. AWS EC2
- d. AWS S3

8. — maintains a highly secure footprint of all the devices & if there is any anomaly it raises an alert so that is the fleet audit or protection service.

- a. AWS IoT device defender
- b. AWS IoT core
- c. Route 53
- d. Greengrass.



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9. A Message broker in AWS uses not protocol

✓ a. MQTT

✓ b. HTTP

✓ c. AMQP

d. P2P

10. In the first phase of Event-driven AWS-IoT architecture Event data is ~~integrated~~ into the cloud using ~~ingested~~ edge-to-cloud interface service such as AWS IoT core. The ~~statement~~

a) True

✓ b) False