Answers to Guide 9

* Web Service
  + What is a web service and how will it be useful in your team project?
  + Why is it a good idea to “hide” a database “behind” a web service?
* RESTful Web Services
  + Compare and contrast SOAP and REST
    - SOAP:
    - REST:
  + What are the most basic design principles on which RESTful web services are based?
  + Give a one-sentence explanation of why each of the four basic principles matters?
  + What is idempotency and why does it matter in RESTful architectures?
* Create, read, update, and delete
  + What are the basic operations required for persistent storage (CRUD)?
  + In a REST architecture, how do these operations map onto the standard HTTTP operations (GET, PUT, POST, and DELETE)?
* To build web/data services in the lab, you’ll need to be prepared to use the following tools.
  + Intellij IDEA – IDEA Ultimate is a web services IDE with the same core functionality as Android Studio
  + Google Cloud Platform (GCP) – is a cloud application hosting service that requires a Google account.
  + Google App Engine (GAE) use to implement a RESTful web data service
* Google App Engine
  + Compare and contrast GCP vs. GAE
    - GCP
    - GAE
  + Explain the purpose of services for: CloudSQL and CloudEndpoints
* Note: These are not free services, we’ll be providing grant-funded billing account numbers. Limit online costs by deleting old application versions and deleting the application deployment entirely after grading.