UNIT 1: Choice of architectures and programming tools.

1. Meaning of full-stack development.

   All the code involved in a working app

2. Difference between back-end and front-end developer.

   The front end is what the client sees, the interactive part whereas the backend is the gears of the projects, where all the code and calculations are

3. Look for the most used programming languages in web.

   Java, Python, Jvascript, C#

4. Look for the most used databases.

   MySql, MSSQL, MongoDB

5. Frameworks for web development that use the following languages:
   - php Laravel
   - Python Flask
   - Javascript React
   - Java Spring framework

6. What is a web server? Indicate some web servers and some web clients.

   Software used to manage a web page. Apache or node are web servers while browsers or apps like Chrome or Youtube are web clients

7. Indicate some other servers.

   Servers to store information like mongodb or local servers for games like WoW

8. Explain with your own words the meaning of "Full Stack".

   All the parts of a project working together as intended

9. What are CRUD operations?

   Create, Read, Update and Delete in databases

10. What is the purpose or the HTTP protocol?

    To connect the client and server sides of a web application

11. Indicate the correspondence between the HTTP methods: POST, GET, PUT and DELETE and the CRUD operations.

    Post → Create, Get → Read, Put → Update and Delete → Delete

12. What is an API?

    A set of rules that's used so apps can communicate with other apps, libraries or frameworks

13. How must be an API to be called a WEB API?

    It's gotta be a collection of HTTP protocols that the client uses to communicate with the web server

14. In which applications can we use a REST API?

    Simple applications that don't need complex protocols and only use the simple get post put and delete ones

15. What is the format of the response in a REST API?

    In a JSON or XML format

16. Explain with your own words the difference between a library and a framework.

    A library is a collection of tools that can be used anywhere you want in a code while a framework is the base for your project and once you implement it you have to use it and follow it's rules at all times

17. What is the lifecycle in software development?

    It's a plan that the developer follows to plan, complete and then maintain an application until it's life is over

18. In a web application explain how a client server communication works.

    The client communicates with the server through an API, sending requests and receiving responses

19. What is Postman?

    A program that lets you send HTTP requests without the need of a client side or API

20. Indicate some relational databases.

    MSQLS, MySQL

21. Indicate some non relational databases.

    MongoDB, BaseX

22. Explain with your own words what is a ORM.

    A library that lets you modify a database using a programming language that's not the default query one. They can also transform relational databases into object oriented ones like Hibernate in java

23. What is the purpose of a Cloud Platform?

    To upload an app to the cloud and run it in cloud servers so that you don't have to provide the hardware necessary yourself

24. Indicate some cloud platforms.

    Heroku, AWS

25. Meaning of CI/CD.

    CI is the automatic testing of an app whenever there's a new commit so that the developers

don't have to do it and can save time. CD is an approach that consists in having consistent, small updates in your code instead of bigger, less consistent ones

26. What's the difference between a Web Developer and a Web Designer?

A web designer designs the app and tells the developer what to do and the developer programs it

27. What is XAMPP?

A software package that makes it easier to convert an app tested at home to a fully functional web app for everyone that uses Apache, MariaDB, PHP and Perl

28. What is LAMP?

A popular software stack used in a lot of applications that uses Linux, Apache, MySQL and PHP

29. Explain with your own words the steps that the software goes through using CI.

It's first designed, then developed, tested, quality assured, then published and updated constantly by the developers without the need to test every new update because it's automated

30. What is the main purpose of CI/CD?

Make the maintenance process after an app is published easier for the developer

31. Explain the main difference between Heroku and AWS.

Heroku sets up servers for your web app automatically without the need to specify any hardware or system requirements while in AWS you need to specify everything

32. Explain with your own words the main difference between using Heroku and AWS to host your web App.

Heroku should be used for smaller, less important apps since it doesn't allow for much customization in the way it handles your app while AWS is more professional and can be fully customized with the necessary specs needed to support whatever the developer wants to do

33. Explain the difference between a programming language and a runtime environment.

A programming language is used to tell the processor what to do while a runtime environment shows the results to the client or runs the program written in the programming language