| Questions | Your Answer |
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| **Linux - File Management** | |
| List the command to create a new directory named `projects`. | |
| How do you copy a file named `report.txt` from the current directory to the directory `/home/user/documents`? | |
| What is the command to move a file named `image.jpg` to the directory `/home/user/pictures`? | |
| How do you delete a directory named `temp` and all its contents? | |
| Describe the difference between `ls -l` and `ls -a`. | |
| **Linux - Shell Script** | |
| Write a basic shell script that prints "Hello, World!" to the terminal. | |
| How do you make a shell script executable? | |

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| Explain the use of `if` statement in shell scripting with an example. | |
| How do you pass arguments to a shell script? | |
| What is the purpose of the `#!/bin/bash` line at the beginning of a script? | |
| **Linux - Network and Communication Basics (ssh, ftp, scp)** | |
| What is the command to connect to a remote server using `ssh`? | |
| How do you transfer a file named `backup.zip` from your local machine to a remote server using `scp`? | |
| Explain the basic use of the `ftp` command to connect to an FTP server. | |
| How do you list files on a remote server using `ftp`? | |
| Describe the difference between `scp` and `ftp`. | |

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| **Database and SQL - Database Concepts** | |
| Define what an entity is in a database. | |
| What is a relationship in the context of databases? | |
| Explain the purpose of a primary key. | |
| What is DDL and give an example of a DDL command? | |
| Describe the difference between a table and a view. | |
| **Database and SQL - SQL Basics** | |
| Write a basic `SELECT` statement to retrieve all columns from a table named `employees`. | |
| How do you filter records in a `SELECT` statement to only include rows where the `age` column is greater than 30? | |
| Write an `INSERT` statement to add a new record to the `employees` table. | |

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| How do you update the `salary` column of all employees in the `employees` table to 50000? | |
| Write a `DELETE` statement to remove all records from the `employees` table where the `department` is 'Sales'. | |
| **Python Programming Basic - VSCode** | |
| How do you open a new terminal in VSCode? | |
| Describe the steps to create a new Python file in VSCode. | |
| How do you run a Python script in VSCode? | |
| What is the purpose of the `debug` feature in VSCode? | |
| Explain how to install a Python extension in VSCode. | |
| **Python Programming Basic - Python Language** | |
| Write a Python function that takes two numbers as arguments and returns their sum. | |

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| How do you create a list in Python? Provide an example. | |
| Explain the use of the `for` loop with an example. | |
| What is the difference between `append()` and `extend()` methods in a list? | |
| Describe the purpose of a `try` and `except` block in Python. | |
| **Code Repository - GitHub** | |
| How do you create a new repository on GitHub? | |
| What is the purpose of a README file in a GitHub repository? | |
| Explain how to clone a repository from GitHub. | |
| How do you create a new branch in a GitHub repository? | |
| Describe the steps to make a pull request on GitHub. | |
| **Code Repository - Git Command Basics** | |

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| What is the command to initialize a new Git repository? | |
| How do you add files to the staging area in Git? | |
| Explain the use of the `commit` command in Git. | |
| How do you push changes to a remote repository in Git? | |
| Describe the difference between `git pull` and `git fetch`. | |

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| **Web Server Programming - Python FastAPI Server** | |
| How do you create a new FastAPI application? | |
| Write a basic FastAPI route that returns "Hello, World!" when accessed. | |
| How do you run a FastAPI application locally? | |
| Explain how to define a POST endpoint in FastAPI. | |
| Describe the use of `pydantic` models in FastAPI. | |
| **Web Server Programming - API (DB to Client)** | |
| What is an API and what is its purpose? | |
| Explain how to connect a FastAPI application to a database. | |
| How do you retrieve data from a database and return it as a JSON response in FastAPI? | |

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| Describe the difference between synchronous and asynchronous endpoints in FastAPI. | |
| How do you handle errors in FastAPI? | |
| **Web Client UI Programming - JavaScript** | |
| Write a JavaScript function that adds two numbers and returns the result. | |
| How do you select an HTML element by its ID using JavaScript? | |
| Explain the use of `addEventListener` in JavaScript with an example. | |
| What is the purpose of `console.log()` in JavaScript? | |
| Describe the difference between `var`, `let`, and `const`. | |
| **Web Client UI Programming - jQuery** | |
| How do you include jQuery in an HTML file? | |

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| Write a jQuery command to hide a paragraph with the ID `#text`. | |
| How do you make an AJAX request using jQuery? | |
| Explain the use of the `$(document).ready()` function in jQuery. | |
| Describe how to add a CSS class to an element using jQuery. | |
| **Web Client UI Programming - Reactive Programming** | |
| What is reactive programming? | |
| Explain the concept of observables in reactive programming. | |
| How do you create an observable in a reactive programming library (e.g., RxJS)? | |
| Describe the use of the `subscribe` method in reactive programming. | |
| How do you handle errors in an observable stream? | |