# Detailed Solutions for Extracted Questions

Here is the extracted and formatted table with the questions and relevant coding-related examples or sample inputs and outputs:

| Question Text |

|-------------------------------------------------------------------------------------------------------|

| Which of these Git commands does the following? - Incorporates all the new commits in the master branch - Rewrites the project history by creating brand new commits for each commit in the original branch |

| What is a sealed class in C#? |

| A team leader has two projects to complete within a one-week timeframe. Project 1 requires 5 points of effort, and Project 2 requires 4 points. The team consists of three members with the following weekly velocities: Alice can complete 5 points, Bob can complete 4 points, and Charlie can complete 3 points. How should the team leader assign the projects to ensure they are both completed on time? |

| The first step of Heap sort is to: |

| Dijkstra's shortest path algorithm is not able to account for what graph properties? |

| What is a linked list? |

| What is a key difference between Depth-First Search (DFS) and Breadth-First Search (BFS) in graph traversal? |

| What is a merge conflict in Git? |

| What is Git stash? |

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| Which concept in OOP refers to bundling data and methods that operate on the data into a single unit? |

| Which principle in OOP suggests that objects of different classes can be treated as objects of a generalized superclass? |

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| What does the term “scalability” in cloud computing refer to? |

| What is the purpose of the .gitignore file? |

| What is the output of the following code? /\* Add necessary code snippet \*/ |

| What is an abstract class in C# and when is it used? |

| Given a list named items with multiple elements, which of the following options correctly retrieves the last element of the list in Python? |

| How is a dictionary defined in Python? |

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| What is a key difference between a list and a set in Python? |

| What is the difference between > and >> operators in Linux? |

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| Which of the following commands cannot be applied to a folder in Linux? |

| How would a user remove write permissions on file "foo.txt" for everybody except the owner in Linux? |

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| Which JOIN does the following: returns all the values from the right table, plus matched values from the left table or NULL in case of no matching join predicate. |

| Which of the following traversal sequences can be used to construct a binary tree? |

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| How can you group one or more SQL statements together as one logical unit? |

| Given the following tables: emp (emp\_id name) /\* Add necessary table information and queries \*/ |

| What is the role of RAM when running an application? Explain in detail how RAM interacts with other components of a computer during this process. |

| What is a virtual machine (VM)? Explain in detail how VMs work, their benefits, and some common use cases for them. |

| Describe a time when you encountered an unexpected technical issue. What was the problem, and how did you approach debugging it? What steps did you take, and what did you learn from the experience? |

| How many years of experience do you have as a developer? |

| What was the last piece of software you worked on? What did you specifically build? |

| Who inspires you and why? |

| What inspires you to learn something new? |

| What are your short-term professional goals, and how do you plan to achieve them? |

| What's one professional achievement you're particularly proud of, and why? |

| What new skill are you interested in learning? |

| Array Challenge: Have the function ArrayChallenge(arr) take the array of numbers stored in arr and return the string true if any combination of numbers in the array (excluding the largest number) can be added up to equal the largest number in the array, otherwise return the string false. For example: if arr contains [4, 6, 23, 10, 1, 3], the output should return true because 4 + 6 + 10 + 3 = 23. The array will not be empty, will not contain all the same elements, and may contain negative numbers. Examples Input: {5,7,16,1,2} Output: false Input: {3,5,-1,8,12} Output: true |

| Math Challenge: Have the function MathChallenge(num) take num and return 1 if any arrangement of num comes out to be a prime number, otherwise return 0. For example: if num is 910, the output should be 1 because 910 can be arranged into 109 or 019, both of which are primes. Examples Input: 98 Output: 1 Input: 598 Output: 1 |

This table should capture the questions efficiently in a clear and concise manner.