1. **What is the current version of Node.js?**
   * Answer: 20.11.1 / 21.7.1
2. **What is functions.**

* Answer: A function is a reusable block of code that performs a specific task or set of tasks.
* By using functions, we can avoid rewriting same logic/code again and again in a program.
* We can call C functions any number of times in a program and from any place in a program.
* Reusability is the main achievement of functions.

1. **What is npm full form?**
   * Answer: npm (Node Package Manager)
2. **Diffrence between Variable and constant?**
   * Answer:Variable can be changed during runtime and constant can not be changed during run time .
3. **What are the data types ?**
   * Answer: Data types are used to classify different types of data and define the operations that can be performed on them.

**Integer (int):** Represents whole numbers without any decimal points.

**Floating-point (float):** Represents numbers with decimal points or in exponential form.

**Boolean (bool):** Represents true or false values.

**Character (char):** Represents a single character, such as a letter or symbol.

**String (str):** Represents a sequence of characters.

**Array:** Represents a collection of elements, all of the same data type.

**List:** Similar to an array, but more flexible and dynamic in size.

**Tuple:** An ordered, immutable sequence of elements.

**Dictionary (dict):** A collection of key-value pairs, where each key must be unique.

**Set:** An unordered collection of unique elements.

**Pointer:** Represents a memory address pointing to the location of a value.

**Struct (struct):** A user-defined composite data type that groups related data under a single name.

1. **Explain the difference between Integer and Float Datatypes in Node.js.**
   * Answer: **Integers:**  Represents whole numbers without any decimal point.

**Float:** Represents numbers with decimal points or in exponential form.

1. **What is a Class?**
   * Answer: A class is a blueprint or template for creating objects. Objects are instances of classes, and a class defines a set of properties (attributes) and behaviors (methods) that its objects will have.
2. **What is inheritance?**
   * Answer: Inheritance is a mechanism that allows a class (subclass or derived class) to inherit properties and behaviors from another class (superclass or base class).
3. **What is Objects?**

* Answer: Objects are instances of a class, created based on the class template. Each object has its own set of attributes and can call the methods defined by its class.

10**. What are the diffrenet types of Loops ?**

* + Answer: There are three types of loops

While Loop,Do-While Loop ,For Loop

11. **Diffrence between while and Do-While Loop?**

Answer: **While Loop:**

* In a **while** loop, the loop condition is checked before the execution of the loop's body.
* If the condition is initially false, the loop body may not execute at all.

**Do-While Loop:**

* In a **do-while** loop, the loop's body is executed at least once before the loop condition is checked.
* This ensures that the loop body is executed at least once, regardless of the initial condition.

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1. **What are the types of conditional statements ?**

* Answer: If statement, If-else statement, If-elif-else statement.

13.**Diffrenece between break and continue?**

* Answer: The Break statement terminates the loop. And Break keyword is used for break statement.

The continue statement stops the current iteration and continue with next iteration in loop. For this Continue keyword is used

14 . **Define Arrays?**

* Answer An array is a data structure that stores a collection of elements, each identified by an index or a key. The elements in an array are stored in contiguous memory locations, and the index is used to access a specific element.

15.**What are the Header file ?**

* Answer: Header files are an integral part of programming languages like C and C++. They contain declarations of functions, macros, constants, and other constructs that can be used across multiple source code files. Header files typically have a ".h" extension (e.g., "stdio.h" or "iostream.h") and are included in source code files to provide information to the compiler about the various entities used in the program.

16.**How do you check if a variable is an array in JavaScript?**

Answer: By using the **Array.isArray()** Method.

17. **What is the difference between == and === operators in JavaScript?** **Answer:**

* **==** is the equality operator, which checks for equality after performing type conversion if necessary.
* **===** is the strict equality operator, which checks for equality without type conversion. It also checks for equal types.

**SQL INTERVIEW QUESTIONS**

**What does SQL stand for?**

* Answer: SQL stands for Structured Query Language.

**Explain the difference between DELETE and TRUNCATE in SQL.**

* Answer: **DELETE** removes rows from a table based on a condition, while **TRUNCATE** removes all rows from a table, effectively resetting the table.

**What is a primary key in a table?**

* Answer: A primary key is a unique identifier for each record in a table. It ensures that each row can be uniquely identified and is used to enforce entity integrity.

**What is a foreign key in a table?**

* Answer: A foreign key is a field that refers to the primary key in another table. It establishes a link between the two tables, enforcing referential integrity.

**Explain the purpose of the ORDER BY clause in SQL.**

* + Answer: The **ORDER BY** clause is used to sort the result set of a query based on one or more columns, either in ascending (default) or descending order.

. **What is an index in a database?**

* Answer: An index is a data structure that improves the speed of data retrieval operations on a database table. It is created on one or more columns to quickly locate rows when querying.

**What is the purpose of the GROUP BY clause in SQL?**

* Answer: The **GROUP BY** clause is used to group rows that have the same values in specified columns into summary rows, like calculating aggregate functions (e.g., COUNT, SUM) on grouped data.

**Write a basic INSERT statement to add a new record to a table named "products" with columns "product\_name" and "price."**

* Answer: **INSERT INTO products (product\_name, price) VALUES ('ProductABC', 29.99);**

**What is the Full Form of DBMS?**

Answer: DBMS stands for Database Management System.

**What is the Sql Operator? Explain different types of SQL operators.**

Answer: Arithmetic operator, Logical Operator, Comparison operators,

Bitwise operators, Compound operators , String operators

**Practical Questions Based on JS**

**1. What will be the output of this code?**

**let num = 10;**

**function doubleNum()**

**{**

**num \*= 2;**

**}**

**doubleNum();**

**console.log(num);**

**Answer:** The output will be **20**. The function doubleNum doubles the value of num, which is initially 10

**2.Identify the syntax error and correct it**

**let x = 5;**

**if (x == 5) {**

**console.log("x is equal to 5");**

**else {**

**console.log("x is not equal to 5");**

**}**

**Answer:**  The syntax error is missing closing curly brace “ **} ”** for the **if block**.

**3. Is there any syntax error if it is Fixed it :**

**let greeting = function() {**

**console.log("Hello!");**

**};**

**greeting();**

**Answer:** No syntax error

**4. What will be the output?**

**let x = 5;**

**let y = x++;**

**console.log(y);**

**Answer:** The output will be **5** The postfix increment operator **x++** returns the current value of **x** and then increments it.

**5. Find and fix the syntax error**

**let array = [1, 2, 3, 4, 5];**

**array.forEach(function(element) {**

**console.log(element);**

**};**

**Answer:** The syntax error is the **missing closing parenthesis )** for the **forEach** function.

**6.** **What will be the output?**

**let x = 10;**

**function modifyX() {**

**x += 5;**

**}**

**modifyX();**

**console.log(x);**

**Answer:** The output will be **15.** The function **modifyX** modifies the value of **x** by adding 5 to it.

**7. What will be the output?**

**let x = 5;**

**function changeX() {**

**x = 7;**

**}**

**console.log(x);**

**changeX();**

**console.log(x);**

**Answer:** The output will be**:**

**5**

**7**

**Sql Practical Questions**

**1. Identify the syntax error and fix it**

**SELECT FirstName, LastName, City**

**FROM Customers**

**WHERE Country = 'UK';**

**ORDER BY LastName;**

**Answer: “ ; ”** after **where** clause

**2.What will be the output?**

**SELECT \* FROM products WHERE price > 50;**

**Answer:** The output will be all rows from the **products** table where the **price** column value is greater than 50.

**3. Identify the syntax error if it is present and fix it**

**INSERT INTO users (name, age) VALUES ('John', 30);**

**Answer:** There is no Error

**4. What will be the output?**

**SELECT COUNT(\*) AS total\_customers FROM customers;**

**Answer:** The output will be the total number of customers in the **customers** table.

**5. What will be the output?**

**SELECT AVG(salary) AS average\_salary FROM employees;**

**Answer:** The output will be the average salary of all employees in the **employees** table.