1. **Print Numbers**  
   Write a for loop to print numbers from 1 to 10 in the console.

**var num=10**

**for (var x=1; x <=num; x++){**

**console.log(x);**

**}**

1. **Sum of Numbers**  
   Write a for loop to calculate the sum of the first 5 natural numbers (1, 2, 3, 4, 5) and display the result.

**var num=5**

**sum=0**

**for (var x=1; x <=num; x++){**

**sum=sum+x**

**}**

**console.log(sum);**

1. **Even Numbers**  
   Write a for loop to print all even numbers between 1 and 20.

**var num=20**

**for (var x=2; x <=num; x++){**

**if(x%2==0){**

**console.log(x)**

**}**

**}**

1. **Reverse Counting**  
   Write a for loop to print numbers from 10 to 1 in descending order.

**var num=10**

**for (var x=10; x >=1; x--){**

**console.log(x);**

**}**

1. **Multiplication Table**  
   Write a for loop to print the multiplication table of 5 (from 5 × 1 to 5 × 10).

**var num=10**

**for (var x=1; x<=10; x++){**

**console.log("5 \* "+ (x) +" ="+(5\*x));**

**}**

### Basic Level:

1. What is the starting point of a basic for loop in JavaScript?
   * 1. for (let i = 1; i < 10; i++)
     2. **for (let i = 0; i < 10; i++)**
     3. for (let i = 0; i <= 10; i++)
     4. for (let i = 1; i <= 10; i++)
2. What part of the for loop controls how many times the loop executes?
   * 1. Initialization
     2. Condition
     3. Increment/Decrement
     4. **All** **of the above**
3. What will be the output of the loop?

* for (let i = 0; i < 5; i++) {  
   console.log(i);  
  }
  + 1. **0, 1, 2, 3, 4**
    2. 1, 2, 3, 4, 5
    3. 1, 2, 3, 4
    4. 0, 1, 2, 3, 4, 5

1. Can a for loop be used without a condition?
   * 1. **Yes**
     2. No
2. What is the significance of the increment part of the for loop?
   * 1. It checks the condition.
     2. It initializes the loop.
     3. **It changes the loop variable each iteration.**
     4. It ends the loop.
3. What will be the output of the following code?

* for (let i = 5; i > 0; i--) {  
   console.log(i);  
  }
  + 1. **5, 4, 3, 2, 1**
    2. 1, 2, 3, 4, 5
    3. 4, 3, 2, 1
    4. 5, 4, 3, 2, 1, 0

1. Can the loop variable be modified inside the for loop body?
   * 1. **Yes**
     2. No
2. What happens if the condition in the for loop is always true?
   * 1. **Loop runs indefinitely.**
     2. Loop will never run.
     3. Loop runs once.
     4. Loop exits immediately.
3. What does the loop do?

* for (let i = 3; i < 10; i += 2) {  
   console.log(i);  
  }
  + 1. **3, 5, 7, 9**
    2. 4, 6, 8, 10
    3. 5, 7, 9
    4. 3, 4, 5, 6

1. What will happen in this code?

* for (let i = 0; i < 3; i++) {  
   let i = 5;  
   console.log(i);  
  }
  + 1. 0, 1, 2
    2. **5, 5, 5**
    3. Error
    4. Infinite loop

### Intermediate Level:

1. What is the scope of the variable i in a for loop?
   * 1. **Global (if we declare with var)**
     2. **Local to the block (if we declared with let and const)**
     3. Local to the function
     4. None
2. Which of the following is a valid for loop?
   * 1. for (let i = 0;; i++)
     2. **for (let i = 0, i < 5, i++)**
     3. for (i = 0; i < 5; i++)
     4. for (i == 0; i < 5; i++)
3. How can you skip the current iteration in a for loop?
   * 1. **continue;**
     2. break;
     3. return;
     4. exit;
4. How can you stop the execution of a for loop before it completes all iterations?
   * 1. continue;
     2. stop;
     3. **break;**
     4. exit;
5. What happens if the increment is missing in the for loop?
   * 1. **Infinite loop**
     2. Syntax error
     3. Loop runs once
     4. No iteration occurs
6. What will be the output?

* for (let i = 0; i < 5; i += 2) {  
   console.log(i);  
  }
  + 1. 0, 1, 2, 3, 4
    2. **0, 2, 4**
    3. 0, 2
    4. 2, 4

1. What will happen?

* for (let i = 0; i < 3; i++)  
   for (let j = 0; j < 2; j++)  
   console.log(i + j);
  + 1. **0, 1, 1, 2, 2, 3**
    2. 0, 1, 1, 2, 2, 3, 3
    3. 0, 1, 1, 2, 2, 3, 3, 4
    4. 0, 1, 2, 3, 4

1. What will the following loop output?

* for (let i = 0; i <= 10; i++) {  
   if (i === 5) break;  
   console.log(i);  
  }
  + 1. **0, 1, 2, 3, 4**
    2. 0, 1, 2, 3, 4, 5
    3. 0, 1, 2, 3, 4, 5, 6
    4. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

1. What will the following code do?

* for (let i = 1; i <= 10; i \*= 2) {  
   console.log(i);  
  }
  + 1. **1, 2, 4, 8**
    2. 1, 3, 5, 7, 9
    3. 2, 4, 8
    4. 1, 2, 3, 4

1. What will this for loop do?

* for (let i = 10; i >= 0; i -= 3) {  
   console.log(i);  
  }
  + 1. **10, 7, 4, 1**
    2. 10, 8, 6, 4
    3. 10, 9, 8, 7
    4. Error

### Advanced Level:

1. How many times will the following loop run?

* for (let i = 0; i !== 10; i += 3) {  
   console.log(i);  
  }
  + 1. 4
    2. 5
    3. 6
    4. **Infinite**

1. What will this loop print?

* for (let i = 0; i < 3; i++) {  
   if (i % 2 === 0) continue;  
   console.log(i);  
  }
  + 1. 1, 2
    2. 0, 2
    3. **1**
    4. 0, 1, 2

1. Can the for loop header be empty?

* for (;;) {  
   // some code  
  }
  + 1. **Yes**
    2. No

1. How can the following code be corrected?

* for (let i = 0; i < 5 i++) {  
   console.log(i);  
  }
  + 1. Add a semicolon after i++.
    2. Remove let.
    3. **Add a comma between statements.**
    4. Add parentheses around i++.

1. What is the output?

* for (let i = 0; i <= 3; i++, console.log(i));
  + 1. **1, 2, 3, 4**
    2. 0, 1, 2, 3, 4
    3. 0, 1, 2, 3
    4. 1, 2

1. What will be the final value of i in this code?

* let i;  
  for (i = 0; i < 5; i++) {}  
  console.log(i);
  + 1. 4
    2. **5**
    3. 6
    4. Undefined

1. What will happen in this loop?

* for (let i = 0; i < 10; i = i + 3) {  
   console.log(i);  
  }
  + 1. **0, 3, 6, 9**
    2. 1, 4, 7, 10
    3. Infinite loop
    4. Syntax error

1. How many times will this loop run?

* for (let i = 5; i <= 10; i += 2) {}
  + 1. **3**
    2. 4
    3. 5
    4. Infinite

1. What will the following code print?

* for (let i = 0; i < 10; i++) {  
   if (i % 3 === 0) {  
   console.log(i);  
   }  
  }
  + 1. 1, 2, 3, 6, 9
    2. 3, 6, 9
    3. **0, 3, 6, 9**
    4. 0, 2, 4, 6

1. What happens when the loop has no initialization?

* for (; i < 5; i++) {  
   console.log(i);  
  }
  + 1. Error
    2. Infinite loop
    3. 0, 1, 2, 3, 4
    4. **Depends on the scope of i**

1. What will the following code do?

* for (let i = 1; i < 20; i \*= 3) {  
   console.log(i);  
  }
  + 1. **1, 3, 9**
    2. 1, 2, 4, 8
    3. 1, 3, 6, 9
    4. Infinite loop

1. How does the for loop differ from the while loop in terms of syntax?
   * 1. **Initialization happens outside the loop in while.**
     2. while loop is more optimized.
     3. for loop doesn’t require a condition.
     4. while loop can’t be nested.
2. What will happen if there is no update statement in the for loop?
   * 1. Loop will run once.
     2. **Infinite loop.**
     3. Loop won’t run at all.
     4. Syntax error.
3. How many times does this loop run?

* for (let i = 0; i++ < 5;) {}
  + 1. **4**
    2. 5
    3. 6
    4. Infinite

1. What is the result of this code?

* for (let i = 5; i; i--) {  
   console.log(i);  
  }
  + 1. 4, 3, 2, 1
    2. **5, 4, 3, 2, 1**
    3. 4, 3, 2, 1, 0
    4. Infinite loop

1. What will the following loop print?

* for (let i = 1; i <= 3; i++) {  
   for (let j = 1; j <= 2; j++) {  
   console.log(i, j);  
   }  
  }
  + 1. **1, 1; 1, 2; 2, 1; 2, 2; 3, 1; 3, 2**
    2. 1, 2; 2, 2; 3, 2
    3. 1, 2; 2, 1; 3, 2
    4. Syntax error

1. How many times will the inner loop run in this code?

* for (let i = 0; i < 4; i++) {  
   for (let j = 0; j < 3; j++) {  
   console.log(i, j);  
   }  
  }
  + 1. 4
    2. 7
    3. **12**
    4. 10

1. How many total iterations will both loops run?

* for (let i = 1; i <= 5; i++) {  
   for (let j = 1; j <= i; j++) {  
   console.log(i, j);  
   }  
  }
  + 1. **15**
    2. 10
    3. 12
    4. 20

1. What is printed by the following loop?

* for (let i = 2; i <= 4; i++) {  
   for (let j = 1; j < i; j++) {  
   console.log(i, j);  
   }  
  }
  + 1. **2, 1; 3, 1; 3, 2; 4, 1; 4, 2; 4, 3**
    2. 2, 1; 3, 2; 4, 3
    3. 2, 2; 3, 3; 4, 4
    4. 1, 2; 2, 3

1. How many iterations will this loop combination execute?

* for (let i = 0; i < 3; i++) {  
   for (let j = i; j < 3; j++) {  
   console.log(i, j);  
   }  
  }
  + 1. 9
    2. **6**
    3. 5
    4. 3

1. What is the final output of this nested loop?

* let result = '';  
  for (let i = 0; i < 3; i++) {  
   for (let j = 0; j < 3; j++) {  
   result += i + '' + j + ' ';  
   }  
  }  
  console.log(result);
  + 1. “000 011 022”
    2. **“00 01 02 10 11 12 20 21 22”**
    3. “012 012 012”
    4. Infinite loop

1. What does this code output?

* for (let i = 1; i <= 2; i++) {  
   for (let j = 1; j <= 3; j++) {  
   if (i + j === 4) {  
   console.log(i, j);  
   }  
   }  
  }
  + 1. **1, 3; 2, 2**
    2. 1, 1; 2, 3
    3. 2, 1; 1, 2
    4. 1, 2; 2, 1

1. What will happen when the following nested loop is executed?

* for (let i = 0; i < 3; i++) {  
   for (let j = 0; j < 2; j++) {  
   if (j === 1) break;  
   console.log(i, j);  
   }  
  }
  + 1. **0, 0; 1, 0; 2, 0**
    2. 0, 1; 1, 1; 2, 1
    3. 0, 1; 1, 0
    4. Infinite loop

1. What does this loop combination output?

* for (let i = 1; i <= 3; i++) {  
   for (let j = 1; j <= 2; j++) {  
   if (i === 2) continue;  
   console.log(i, j);  
   }  
  }
  + 1. 1, 1; 1, 2; 2, 1; 2, 2; 3, 1; 3, 2
    2. **1, 1; 1, 2; 3, 1; 3, 2**
    3. 1, 2; 2, 1; 3, 2
    4. Infinite loop

1. What will the output be for this nested loop setup?

* let output = '';  
  for (let i = 1; i <= 3; i++) {  
   for (let j = i; j <= 3; j++) {  
   output += i + '' + j + ' ';  
   }  
  }  
  console.log(output);
  + 1. **“11 12 13 22 23 33”//without double quotes**
    2. “12 23 34”
    3. “12 13 23”
    4. Infinite loop

1. How many times will the inner loop execute in total?

* for (let i = 0; i < 4; i++) {  
   for (let j = i; j >= 0; j--) {  
   console.log(i, j);  
   }  
  }
  + 1. **10**
    2. 5
    3. 4
    4. 8

1. What does this code print?

* let counter = 0;  
  for (let i = 0; i < 4; i++) {  
   for (let j = 0; j < 2; j++) {  
   counter++;  
   }  
  }  
  console.log(counter);
  + 1. 2
    2. 4
    3. **8**
    4. 6

1. What is printed by this code?

* for (let i = 1; i <= 2; i++) {  
   for (let j = 1; j <= 2; j++) {  
   if (i === j) break;  
   console.log(i, j);  
   }  
  }
  + 1. 1, 2; 2, 1
    2. 1, 1; 2, 2
    3. **2, 1**
    4. Infinite loop

1. What happens in the following nested loop?

* for (let i = 3; i > 0; i--) {  
   for (let j = 3; j > i; j--) {  
   console.log(i, j);  
   }  
  }
  + 1. 3, 2; 2, 1; 1, 0
    2. 2, 3; 1, 2; 1, 3
    3. 1, 2; 1, 3
    4. 3, 2; 3, 1
    5. **23 13 12**

1. How many total times does the loop run in this code?

* for (let i = 0; i < 3; i++) {  
   for (let j = 0; j < 3; j++) {  
   if (i === 2) break;  
   console.log(i, j);  
   }  
  }
  + 1. 9
    2. 6
    3. 4
    4. 5

**Outer loop 3 times**

**Inner loop 7 times**