Java script exam

1. Strings

a) How do you declare a string in JavaScript? Provide an example.

* let name = "Aseel";

b) What will be the output of the following code?

let firstName = "John";

let lastName = "Doe";

console.log(firstName + " " + lastName);

- John Doe

c) How can you find the length of a string in JavaScript?

 - using function ( .lenght )

Ex) let length = name.length;

2. Booleans

a) What are the two possible boolean values in JavaScript?

- true , false

b) Predict the output of the following:

let x = 10 > 5;

console.log(x);

- true

c) How do you check if a variable is true in an if-statement?

 - var = True

if var === True:

print("The variable is True!")

else:

print("The variable is False!")

3. Objects

a) How do you create an object in JavaScript?

- let car = { make: "Toyota", model: "Corolla", year: 2020 };

b) Given the following object:

let person = {

  name: "Ali",

  age: 25,

  country: "Jordan",

};

b) How would you access the age property?

* let age = person.age;

console.log(age); // Output: 25

c) What will be the output of the following code?

let user = {

  name: "Sara",

  age: 22,

  job: "Engineer",

};

console.log(user["job"]);

- Engineer

4. Array Objects

a) How do you declare an array in JavaScript?

- let fruits = ["apple", "banana", "cherry"];

b) What will be the output of this code?

let fruits = ["apple", "banana", "cherry"];

console.log(fruits[1]);

- banana

How can you add an item to the end of an array?

 - let fruits = ["apple", "banana", "cherry"];

fruits.push("orange");

5. Date Objects

a) How do you create a new Date object in JavaScript?

- let currentDate = new Date();

    console.log(currentDate);

b) How do you get the current day of the week from a Date object?

 - let today = new Date();

let dayOfWeek = today.getDay();

console.log(dayOfWeek);

let days = ["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"];

console.log("Today is " + days[dayOfWeek]);

6. Functions

a) What will be the output of the following function call?

function multiply(x, y) {

  return x \* y;

}

console.log(multiply(4, 5));

 -20

b) How do you define a function that converts Fahrenheit to Celsius?

- function converts(Fahrenheit) {

return (Fahrenheit - 32) \* 5 / 9;

}

7. Objects with Methods

a) How do you define a method inside a JavaScript object?

- let person = { name: " Emad ",

 greet: function()

{   return " Aseel " + this.name ;

}

};

console.log(person.greet());

// Output: Aseel Emad

b) What will be the output of the following code?

let car = {

  brand: "Toyota",

  model: "Corolla",

  getDetails: function () {

    return this.brand + " " + this.model;

  },

};

console.log(car.getDetails());

- Toyota Corolla

c) How can you add a new method to an existing object?

-person.sayGoodbye = function() { return "Goodbye, " + this.name; };

console.log(person.greet());

8. Looping through Objects

a) How can you loop through an object’s properties?

-let book = {

title: "JavaScript Basics",

author: "John Doe",

year: 2021

};

for (let key in book) {

console.log(key + ": " + book[key]);

}

b) What will be printed by the following loop?

let person = {

  name: "Hussam",

  age: 30,

  city: "Amman",

};

for (let key in person) {

  console.log(key + ": " + person[key]); }

 -name: Hussam age: 30 city: Amman

9. Conditional Statements

a) What is the difference between if and else if?

- **if statement**: The if statement is used to check whether a certain condition is true. If the condition is true, the code inside the if block is executed.

- **else if statement**: The else if statement comes after an if block, and it is used to check a new condition if the previous if condition was false. This allows you to evaluate multiple conditions, one after the other.

b) Identify the issue in the following code:

let age = 25;

if (age > 30) {

  console.log("Older than 30");

} else if ((age = 30)) {

  console.log("Exactly 30");

} else {

  console.log("Younger than 30");

}

Correct the mistake in the above code.

-The mistake: else if ((age = 30)) {

**-** Corrected Code:

let age = 25;

if (age > 30) {

 console.log("Older than 30");

} else if (age === 30) {  // Use comparison (===) instead of assignment (=)

 console.log("Exactly 30");

} else {

 console.log("Younger than 30");

}

10. Switch Statements

a) What will be the output of this switch statement if today is Monday?

let day;

switch (new Date().getDay()) {

  case 0:

    day = "Sunday";

    break;

  case 1:

    day = "Monday";

    break;

  default:

    day = "Invalid day";

}

console.log(day);

- Monday

b) How does the break statement work in a switch case?

- The break statement is used to terminate the execution of a switch statement as soon as a matching case is found and its associated code runs. Once break is encountered, the program exits the switch block and continues with the rest of the code outside the switch.

c)What happens if you forget to include a break statement in a switch case?

- If you omit the break statement, the program will continue to execute the code in the next case, even if it doesn't match the condition. This is called "fall-through" and can result in unintended behavior, as the program won't stop at the first matching case.