JS SESSION 3 ASSIGNMENTS

Assignment No 1

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JS-Session-3-Assignments</title>
</head>
<body>
    <script>
        document.write("Hello World");
    </script>
</body>
</html>
```

Assignment No 2: Difference between errors and bugs and describe the types of errors and bugs define them.

Errors and bugs are both issues that can occur during programming, but both are slightly different.

An error is a human mistake that cause a program to behave in an unintended way. On the other hand, a bug is a defect in the software that cause it to behave in a way that is different from its intended behavior.

Types of Errors.

1- Syntax error: The syntax error occurs when code violates the rules of JavaScript programming.
2- Logical error: The logical error occurs when the desired output not comes. E.g., the programmer make mistake in a logic.
3- Runtime error: These are errors that occur while a program is running. For example, if a program tries to access a file that does not exist, it will produce a runtime error.

Types of Bugs.

1. Functional bugs: These are bugs that affect the functionality of the software. For example, if a program is designed to calculate a discount but applies the wrong percentage, it will produce incorrect results.
2. Performance bugs: These are bugs that affect the performance of the software. For example, if a program takes too long to load a large dataset, it may be suffering from a performance bug.
3. Compatibility bugs: These are bugs that occur when software is not compatible with a particular platform or environment. For example, if a program is designed to run on Windows but does not work on a particular version of the operating system, it may be suffering from a compatibility bug.

Assignment No 3 Explain what statements and expressions are in JavaScript and highlight the difference between them.

Statement: In JS statement, is a unit of code that performs a specific action. Statements are used to perform tasks such as assigning values to variables , controlling program flow with conditionals, and loops and executing functions.

Examples

```
Var x=7;

Var x = 1+6;

If(x>5){

Console.log(x)

Function naming(name){

Return name

}
```

Expressions: In JavaScript, an expression is any valid unit of code that can be evaluated to a value. Expressions can be simple or complex, and they are used in a variety of contexts throughout JavaScript programs**.**

Examples

2+3

2*3

“name” + “game”

Assignment No 4 Define syntax in JavaScript or any other programming language and also explain how to use comments in JavaScript and different types of comments.

Syntax in JavaScript refers to the set of rules that define the correct structure and format for writing code in the language. Adhering to correct syntax is essential for JavaScript programs to function correctly and avoid syntax errors.

Some common syntax rules in JavaScript include:

1. Statements must end with a semicolon (;)
2. Code blocks must be enclosed in curly braces ({})
3. Variables must be declared with the var, let, or const keyword before they can be used
4. Strings must be enclosed in quotation marks (" " or ' ')
5. Functions must be defined with the function keyword, followed by the function name, parameters (if any), and the function body enclosed in curly braces
6. Object properties are accessed with the dot notation (object.property) or bracket notation (object['property'])

we can easily use comments in JavaScript, there are two types of comments in JS.

1- **Single Line Comment:** Single line comment can be used by entering two forward slashes

E.g. // This area covers single line comment.

2- **Multi Line Comments:** Multi line comment can be uses by entering opening /* and closing */

E.g. /* this area
Covers multiline
Comments
*/