ADVANCE JAVASCRIPT

MODULE: 1 (INTRODUCTION AND CODE QUALITY)

Submitted to :-

Mr. Raj Nagar

Submitted by :-

Janvi Panchal

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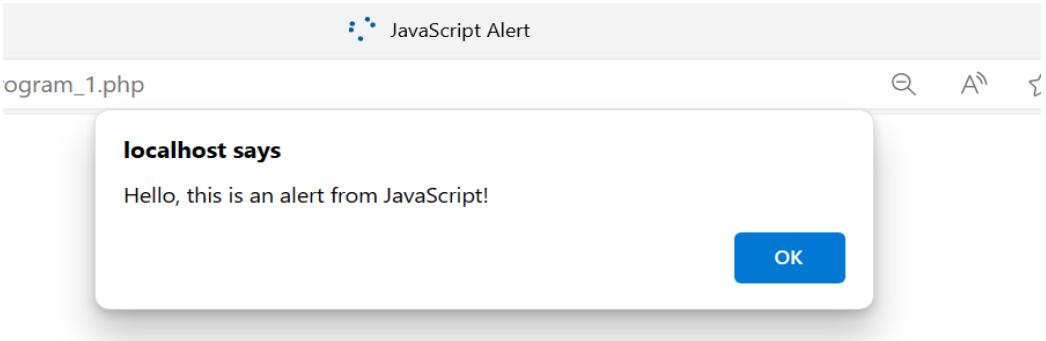
1. Write a program to Show an alert.

Ans:-

program_1.php

```
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4     <meta charset="UTF-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>JavaScript Alert</title>
7   </head>
8   <body>
9
10    <script>
11      // JavaScript code to show an alert
12      alert("Hello, this is an alert from JavaScript!");
13    </script>
14
15  </body>
16  </html
```



2. What will be the result for these expressions?

1. **5 > 4**
2. **"apple" > "pineapple"**
3. **"2" > "12"**
4. **undefined == null**
5. **undefined === null**
6. **null == "\n0\n"**
7. **null === +"\n0\n"**

Ans:-

1. **5 > 4: This is a simple numeric comparison. The result is true because 5 is greater than 4.**
2. **"apple" > "pineapple": This is a lexicographical (dictionary) comparison of strings. The result is false because "apple" comes before "pineapple" in dictionary order.**
3. **"2" > "12": Again, a lexicographical comparison. The result is true because the first character "2" is greater than "1" in terms of character code.**
4. **undefined == null: In JavaScript, undefined and null are loosely equal (but not strictly equal). The result is true.**
5. **undefined === null: This is a strict equality check. undefined and null are not strictly equal, so the result is false.**
6. **null == "\n0\n": The left side is null, and the right side is a string. In a loose equality check, null is only equal to undefined, so the result is false.**
7. **null === +"\n0\n": Here, the right side tries to convert the string "\n0\n" to a number using the unary plus operator. The result is 0. However, the strict equality check null === 0 is false because they are of different types.**

In summary:

1. **true**
2. **false**
3. **true**
4. **true**
5. **false**
6. **false**
7. **false**

3. Will alert be shown?
if ("0") { alert('Hello'); }

Ans:-

Yes, the alert will be shown. In JavaScript, when a non-empty string is used as a condition in an if statement, it is considered truthy. Therefore, the condition ("0") will be true, and the code inside the if block will be executed, resulting in the alert('Hello') being shown.

4. What is the code below going to output?
alert(null || 2 || undefined);

The code will output 2.

In JavaScript, the || (logical OR) operator returns the first truthy operand, or the last operand if all are falsy. In this case, null is falsy, but 2 is truthy, so the expression evaluates to 2, and that value will be output by the alert statement. undefined is not considered because the evaluation stops once a truthy value is found.

5. The following function returns true if the parameter age is greater than 18. Otherwise it asks for a confirmation and returns its result:

```
Function
checkAge(age)
{
    if (age> 18) { return true; }
else {
   // ...return confirm (‘did parents allow you?');
      }
}
```

Ans:-

```
function checkAge(age) {
  if (age > 18) {
    return true;
  } else {
    let confirmation = confirm("Are you sure you are older than 18?");
    return confirmation;
  }
}
```

In this code:

- **If the age is greater than 18, it simply returns true.**
- **If the age is not greater than 18, it uses the confirm function to ask the user for confirmation. If the user clicks "OK," it returns true; otherwise, it returns false.**

You can use this function like this:

```
let userAge = 17; // Replace with the actual age
let result = checkAge(userAge);

if (result) {
   console.log("User is older than 18 or confirmed.");
} else {
   console.log("User is not older than 18 and did not confirm.");
}
```

6. Replace Function Expressions with arrow functions in the code below:

```
Function
ask(question, yes, no)
{ if (confirm(question))yes();
      else
      no();
}
ask("Do you agree?", function()
{ alert("You agreed."); },
function()
{
         alert("You canceled the execution."); }
}
```

Ans:-

```
function ask(question, yes, no) {
  if (confirm(question)) {
    yes();
  } else {
    no();
  }
}
```

```
ask(
  "Do you agree?",
  function() {
    alert("You agreed.");
  },
  function() {
    alert("You canceled the execution.");
  }
);
```