EXCERCISE

1) What is JavaScript?

JavaScript is *a scripting language*. It is different from Java language. It is object-based, lightweight, cross-platform translated language. It is widely used for client-side validation. The JavaScript Translator (embedded in the browser) is responsible for translating the JavaScript code for the web browser.

2) List some features of JavaScript.

Some of the features of JavaScript are:

- o   Lightweight
- o   Interpreted programming language
- o   Good for the applications which are network-centric
- o   Complementary to Java
- o   Complementary to HTML
- o   Open source
    Cross-platform

3) Who developed JavaScript, and what was the first name of JavaScript?

JavaScript was developed by Brendan Eich, who was a Netscape programmer. Brendan Eich developed this new scripting language in just ten days in the year September 1995. At the time of its launch, JavaScript was initially called Mocha. After that, it was called Live Script and later known as JavaScript.

4) List some of the advantages of JavaScript.

Some of the advantages of JavaScript are:

- o   Server interaction is less
- o   Feedback to the visitors is immediate
- o   Interactivity is high
- o   Interfaces are richer

5) List some of the disadvantages of JavaScript.

Some of the disadvantages of JavaScript are:

- o   No support for multithreading
- o   No support for multiprocessing
- o   Reading and writing of files is not allowed
- o   No support for networking applications.

6. What are the key differences between Java and JavaScript? / How is JavaScript different from Java?

JavaScript is a lightweight programming language (most commonly known as scripting language) developed by Netscape, Inc. It is used to make web pages interactive. It is not a part of the Java platform. Following is a list of some key differences between Java and JavaScript

Java is a complete and strongly typed programming language used for backend coding. In Java, variables must be declared first to use in the program, and the type of a variable is checked at compile-time.	JavaScript is a weakly typed, lightweight programming language (most commonly known as scripting language) and has more relaxed syntax and rules.
Java is an object-oriented programming (OOPS) language or structured programming languages such as C, C++, or .Net.	JavaScript is a client-side scripting language, and it doesn't fully support the OOPS concept. It resides inside the HTML documents and is used to make web pages interactive (not achievable with simple HTML).
Java creates applications that can run in any virtual machine (JVM) or browser.	JavaScript code can run only in the browser, but it can now run on the server via Node.js.
The Java code needs to be compiled.	The JavaScript code doesn't require to be complied.
Java Objects are class-based. You can't make any program in Java without creating a class.	JavaScript Objects are prototype-based.
Java is a Complete and Standalone language that can be used in backend coding.	JavaScript is assigned within a web page and integrates with its HTML content.
Java programs consume more memory.	JavaScript code is used in HTML web pages and requires less memory.
The file extension of the Java program is written as ".Java" and it translates source code into bytecodes which are then executed by JVM (Java Virtual Machine).	The JavaScript file extension is written as ".js" and it is interpreted but not compiled. Every browser has a JavaScript interpreter to execute the JS code.
Java supports multithreading.	JavaScript doesn't support multithreading.
Java uses a thread-based approach to concurrency.	JavaScript uses an event-based approach to concurrency.

7. How to use external JavaScript file?

I am assuming that js file name is message.js, place the following script tag inside the head tag.

```
1.  <script type="text/javascript" src="message.js"></script>
```

8. What are JavaScript Data Types?

Following are the JavaScript Data types:
- Number
- String
- Boolean
- Object
- Undefined
-

9. **Which company developed JavaScript?**
   Netscape is the software company that developed JavaScript.
10. **What are undeclared and undefined variables?**
    Undeclared variables are those that do not exist in a program and are not declared. If the program tries to read the value of an undeclared variable, then a runtime error is encountered.
    Undefined variables are those that are declared in the program but have not been given any value. If the program tries to read the value of an undefined variable, an undefined value is returned.
11. **What are global variables? How are these variable declared?**
    Global variables are available throughout the length of the code so that it has no scope. The var keyword is used to declare a local variable or object. If the var keyword is omitted, a global variable is declared.
    Example:
    // Declare a global: globalVariable = "Test";
    The problems faced by using global variables are the clash of variable names of local and global scope. Also, it is difficult to debug and test the code that relies on global variables.

12. **Which symbol is used for comments in Javascript?**
    // for Single line comments and
    /* Multi
    Line
    Comment
    */

13. **What is the data type of variables in JavaScript?**
    All variables in JavaScript are object data types.

14. **What are the two basic groups of data types in JavaScript?**
    - They are as—Primitive
    - Reference types

    Primitive types are number and Boolean data types. Reference types are more complex types like strings and dates.