Data types and naming conventions:

1. What are the naming requirements for variables in your language? What about naming conventions? Are they enforced by the compiler/interpreter, or are they just standards in the community?

   Variable names must start with a letter or underscore but can contain numbers and dollar signs. While it is allowed, it's not good practice to start a variable name with a dollar sign because it can conflict with library names. If you start a variable name with a number or use any symbols other than dollar signs and underscores, the code won't compile properly. You also can't use any reserved words as variable names. JavaScript variables are case sensitive, so thisVar is completely different from tHisVar.[1]

   There are two conventional ways of naming JavaScript variables: camel-case (thisVar) and separating words with an underscore (this_var). Both are common, so it's mostly about personal preference. Variables that start with capital letters are supposed to be constants, so their values shouldn't change. These conventions aren't enforced by compilers/interpreters but do help your code be more readable.[2]

2. Is your language statically or dynamically typed?

   JavaScript is dynamically typed, variables can change types throughout code without causing compilation problems.

3. Strongly typed or weakly typed?

   JavaScript is considered weakly typed. You do not have to specify the data type of a variable when you instantiate it; the compiler will figure it out based on the value you assign.

4. If you put this line (or something similar) in a program and try to print x, what does it do? If it doesn't compile, why? Is there something you can do to make it compile? x = "5" + 6

   It will print 56 because it concatenates the string "5" with the number 6, just like it would if you put that line into a print statement directly.

5. Describe the limitations (or lack thereof) of your programming language as they relate to the coding portion of the assignment (adding ints and floats, storing different types in

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[1] https://www.javascript.com/learn/variables
[2] https://www.w3schools.com/js/js_conventions.asp

lists, etc). Are there other restrictions or pitfalls that the documentation mentions that you need to be aware of?

JavaScript is able to store all of the data types that were used in the assignment, although the language doesn't have separate data types for ints and floats (they're both stored in the number data type). It is important to keep in mind that JavaScript variables are function-scoped, so if you need to access a variable globally, you shouldn't declare it within a function.[3]

6. How do type conversions work in your language? Are the conversions narrowing or widening, and do they work by default or do they have to be declared by the programmer?

Because JavaScript doesn't distinguish between integers and floats, equations don't generally cause type conversions. However, if you try to add a String to a number the result is a String by default.

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[3] https://2ality.com/2012/02/js-pitfalls.html