1slide:

Hello. My name is Alexander Losich. My presentation topic “Primitive data types”.

2slide:

There are several basic data types in JavaScript. There are 5 primitive data types. Such as Number, string, boolean, null, undefined. With each, we will learn more lately.

3slide

The typeof operator returns the type of the argument. It has two syntaxes: with brackets and without.

The typeof result is a string containing the type: typeof undefined // "undefined"

typeof 0 "number"

typeof true "boolean"

typeof "foo" "string"

typeof {} "object"

typeof null "object"

The result of typeof null == "object" is an officially recognized error in the language, which is stored for compatibility. Actually, null is not an object, but a separate data type. In more detail we will analyze it in Null.

4slide

The first type which we consider, logical type Boolean. It has only two values: true and false False, accept parameters such as 0, -0, null, false, NaN, undefined or empty String (“ “). Typically, this type is used to store a yes / no value, for example.

var checked = true; form field is checked

checked = false; form field does not contain a check mark.

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The next data type we will look at is Undefined. The value undefined forms its own type consisting of this single value. It makes sense "not assigned".If a variable is declared, but nothing is written to it, then its value is exactly undefined. In an explicit form, undefined is usually not assigned, since this contradicts its meaning. To write to the variable "empty" or "unknown" value is used null. A method or statement also returns undefined if the variable that is being evaluated does not have an assigned value. A function returns undefined if a value was not returned. You can use undefined and the strict equality and inequality operators to determine whether a variable has a value. x == undefined also checks whether x is null, while strict equality doesn't. null is not equivalent to undefined.

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The next data type we will look at is Null. The value null represents the intentional absence of any object value. It is one of JavaScript's primitive values. The value null is written with a literal: null. null is not an identifier for a property of the global object, like undefined can be. Instead, null expresses a lack of identification, indicating that a variable points to no object. In APIs, null is often retrieved in a place where an object can be expected but no object is relevant. JavaScript is not a "reference to a non-existent object" or "null pointer", as in some other languages. It is just a special meaning that makes sense of “nothing” or “value unknown”. The result of typeof null == "object" is an officially recognized error in the language, which is stored for compatibility. Actually, null is not an object, but a separate data type. Null is often used to denote an empty object reference. When Brendan Eih created JavaScript, he followed the same paradigm, and it made sense (maybe) to return the "object". In fact, the ECMAScript specification defines null as a primitive value that represents the intentional absence of any object value.

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The single type number is used for both integers and fractional numbers. There are special numerical values ​​Infinity and NaN (computation error). Infinity is a special numerical value that behaves exactly like mathematical infinity. Infinity is greater than any number. Adding to infinity does not change it. In JavaScript, you can write numbers not only in decimal, but also in hexadecimal (starting with 0x) number system. Also available is an entry in the “scientific format” (they also say “floating point entry”), which looks like <number> e <number of zeros>.Infinity can also be assigned explicitly: var x = Infinity. It happens and minus infinity –Infinity. To check the string for a number you can use the function isNaN (str). An empty string and a string of whitespace characters are converted to 0, therefore, are considered numbers.

If this check is not applied to a string, then there may be surprises, in particular, isNaN will count nuthe to String method allows you to write numbers in different number systemsmbers as false, true, null, since they are not numbers, but are converted to them.

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Talk about NaN If the mathematical operation cannot be performed, then the special value NaN (Not-A-Number) is returned.

The value NaN is used to denote a mathematical error and has the following properties:

The meaning of NaN is the only one of its kind, which is not equal to anything, including itself.

Any operation with NaN returns NaN

The NaN value can be checked with the special function isNaN (n), which converts the argument to a number and returns true if NaN turned out, and false for any other value.

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There is the same method Math. Generated automatically and globally defined

Method include:

Math.sin(x) -Returns the sine of a number.

Math.cos(x) -Returns the cosine of a number.

Math.floor(x) -Returns the largest integer less than or equal to a number.

Math.round(x) -Returns the value of a number rounded to the nearest integer.

Math.pow(x,y)

Math.tan(x) Returns the tangent of a number.

Math.log(x) eturns the natural logarithm (loge, also ln) of a number.

Math.trunc(x) -Returns the integer part of the number x, removing any fractional digits.

Math.random() -Returns a pseudo-random number between 0 and 1.

And any more

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Last primitive data type-String. In JavaScript, any textual data is a string. There is no separate type of "symbol", which is in a number of other languages. Strings are created using double or single quotes.

In JavaScript, there is no difference between double quotes and single quotes. Strings may contain special characters. The contents of the string in JavaScript cannot be changed. You can not take a symbol in the middle and replace it. Once a string is created, it is forever. All strings are internally encoded Unicode.It doesn't matter what language the page is written in, whether it is in windows-1251 or utf-8. Inside the JavaScript interpreter, all strings are reduced to a single “unicode” form. Each character has its own code. Lower case letters come after capital letters, so they are always larger.

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Methods used in strings

Str.string - it's getting its length. But it is worth considering that this is the index of the last character + 1

str.indexOf("id");-It returns the position where the substring is located, or -1 if nothing is found.

Str. slice(start , end)-

Returns part of a string from position start to, but not including, positions end. Negative values ​​are counted from the end of the line

Str.concat()- Combines the text of two strings and returns a new string.

Str.match()- Used to match a regular expression against a string.

str.repeat()- Returns a string consisting of the elements of the object repeated the given times.

Str.replace()-Used to find a match between a regular expression and a string, and to replace the matched substring with a new substring.