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1  // LECTURE 17: Decision Making in JS
2  // Write a program that outputs if a
   • person is able to
3  // get a driving license
4  // or the number of years he/she will be
   • required to wait
5  // to obtain a driving license.
6  const age = 19;
7  // Assume that the legal age to get a
   • driving license
8  // is 18.
9  const isOldEnough = age >= 18;
10
11 // Syntax similar to C
12 if (isOldEnough) console.log(1); // 1
   • denotes old enough
13 else
14 {
15     console.log(0); // 0 denotes not old
   • enough
16     console.log(18 - age); // Output
   • number of years required to wait.
17 }
18 // LECTURE 18: Type Conversion and Type
   • Coersion
19 let inputYear = '1991';
20 // What is going to happen below is the
   • conversion of the number 18 into a
   • string, and then the concatenation of
   • the string "18" to the inputYear string.
21 console.log(inputYear + 18); // ==> 199118
22 console.log(18 + inputYear); // ==> 181991
```

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23 console.log(typeof inputYear); // ==>
    • string
24
25 // To fix this, we have to convert
    • inputYear into a string.
26 // Type Conversion:
27 inputYear = Number(inputYear); // converts
    • `1991` to 1991
28 console.log(inputYear + 18); // ==> 1991
29
30 // What if we convert a string that is
    • filled with
31 // characters into a number?
32 console.log(Number(`Jonathan`)); // ==>
    • NaN (Not a Number)
33 // It means an invalid number.
34 console.log(typeof NaN); // Number --> NaN
    • is still a number, but it represents an
    • invalid number.
35
36 // converting numbers to string
37 console.log(String(123)); // ==> "123"
38
39 // Syntax is: NewType(Exp)
40 /*
41 In JS, we can convert
42 - Number --> string OR Number --> boolean
43 We cannot convert to undefined or NULL.
44 In practice, we rarely have to do type
    • conversion, because JS automatically
    • does type COERCION in many situations.

```

45

46 Type Coercion – Type coercion happens when

- an operator is dealing with two
- different types. JS will then, under the
- hood convert one of the values to match
- the other, so that the operation can be
- executed. (We already seen an example of
- this above.)

47 */

48 console.log("I am " + 23 + " years old"); /

- / I am 23 years old.

49 // The + operator in JS has a type

- coercion to strings – whenever there is
- an operation between a string and a
- number, it will convert the number to a
- string.

50 // Because of type coercion, we don't have

- to write this:

51 console.log("I am " + String(23) + " years

- old");

52

53 // Not all operators do type coercion to

- string:

54 // The minus operator actually has a type

- coercion to numbers:

55 console.log("23" - "10" - 3); // ==> 10

56 console.log("23" - "10"); // ==> 13?

57 console.log("23" + "10" - 3); // ==> 2307

58

59 // The multiplication and division

- operator also has a type coercion to
- numbers:

60 console.log("23" * "10" / 3); // ==> 76.66666666666667

```
60 console.log("23" * "2"); // ==> 46
61 console.log("22" / "2"); // ==> 11
62
63 // The logical operators also have a type
  • coercion to numbers:
64 console.log("23" > "2"); // ==> true
65 console.log("23" < "2"); // ==> false
66
67 // Guess the following output
68 let n = '1' + 1;
69 n = n - 1;
70 console.log(n); // ==> 10
71
```