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Task 2

Q2. Write a write up on Difference between copy by value and copy by reference.

A: JavaScript has 5 data types that are passed by value: Boolean, null, undefined, String, and Number, these are primitive data types, whereas Array, Function, and Object are non – primitive data types and are passed as reference.

Copy by Value:

Let’s take an example for this:

Var x = 10;

Var y = 20;

Here, x is 10 and y is 20. Now,

A =x;

B =y;

Here A takes the value of x and B takes the value of y, i.e. A is 10 and B is 20. Changing the value of either x or y will not affect the values of A and B, they remain independent.

Copy by Reference: A variable assigned to an object stores not the object itself, but its “address in memory” – in other words “a reference” to it. When an object variable is copied, the reference is copied, but the object itself is not duplicated.

Let’s also take an example for this:

Let student = {name: ‘Suh’};

The object is stored in the memory and it only has the access (address) of the name key to it.

Now let’s copy it.

Let child = student;

Now we have two variables, each storing a reference to the same object (student). When we access the name key from child, this will affect the student variable as well. They are dependant.

Ex,

Child.name = ‘Jamie’;

Now both the student and the child have name = Jamie.

This is copy by reference.

3.How to copy by value a composite datatype (array+objects).

A: We can copy by value a composite datatype by the use of spread operator, it spreads the elements of that particular array or object and its values can be used to assign to some other variable.