

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

Ans :

Copy by value

In a primitive data-type when a variable is assigned a value we can imagine that a box is created in the memory. This box has a sticker attached to it i.e. the variable name. Inside the box the value assigned to the variable is stored

Copy by reference

In case of a non-primitive data-type the values are not directly copied. When a non-primitive data-type is assigned a value a box is created with a sticker of the name of the data-type. However, the values it is assigned is not stored directly in the box. The language itself assigns a different memory location to store the data. The address of this memory location is stored in the box created.

They are storing the address of the memory location. And when one changes the values in the allocated memory it is reflected in the other as well.

2. How to copy by value a composite data type (array+objects).

Ans:

Arrays, objects, functions are all of object type which comes under composite data types. As we know a variable holds data in case of composite data type it holds reference that is the address of that particular value in memory.

Therefore we can't clone data in composite data types. To do that spread operator is used, that is three dots (...), it spreads the elements of that particular array or object and its values can be used to assign to some other variable