Why Upcasting Downcasting?

Ans,

Consider a real life example. If you want to give somebody a gift. You can chose from multiple things like pen, jewelry ,keychain etc. Now every item itself is a type of gift.

When you give a gift you can chose to give it directly as item itself or as a gift by putting it inside a gift box.

Now when we say gift = pen it is correct. But when we want to get a pen inside the gift box, then we need to UNWRAP the gift box like pen = (pen) (from the gift box).

Let us see this in terms of the code. We have parent class gift and many children classes like Pen, KeyChain etc as mentioned above.

class Gift { }

class Pen extends Gift { }

So here upcasting means Gift objGift = new Pen() //it is automatic as pen is a gift

But down casting means Pen objPen = (Pen) (objGift) //It is explicit as gift needs to be unwrapped to get the pen inside.

UpCast -> From lower level class type to upper level class type

Downcast -> From upper level class type to lover level class type