Casting: To convert particular type of a variable into another data type is called casting.

Casting based on the following data types:

1. Primitive

2. Non Primitive

1. Primitive : In Primitive we can have 2 types of casting:

a. Implicit

b. explicit

a. Implicit casting : Whenever we are converting lower data type into higher data type then it is known as implicit casting.

There cannot be any chance of data loss as we are converting a lower data type to the higher data type.

Example:

// implicit casting

**byte** b = 20;

**int** c = (**int**)b;

System.***out***.println(c);//20

b. explicit casting: : Whenever we are converting higher data type into lower data type then it is known as explicit casting.

There can be a chance of data loss as we are converting from higher data type to the lower data type.

Example:

explicit casting

**int** i = 128;

**byte** bb = (**byte**)i;

System.***out***.println(bb);//-128

Casting on Non Primitive casting:

2. Non Primitive based casting:

Whenever we are trying to perform casting of non- primitive data type then those data type must have a relation (inheritance) between then. This is also known as type casting.

There are 2 types of non primitive based casting:

1. UP casting.

2. Down casting.

1. Up casting: When we are casting from child class into parent class then it is called as Up casting.

Child c = **new** Child();

Parent d = (Parent)c;// UP casting

Here child is the subclass and parent is super class and in this example we are casting from child class to parent class hence it is UP casting.

**public** **class** Parent {

**public** **void** m1()

{

System.***out***.println("m1 method of parent class" );

}

**public** **void** m2()

{

System.***out***.println("m1 method of parent class" );

}

} **public** **class** Child **extends** Parent{

**public** **void** m1()

{

System.***out***.println("m1 method of child class" );

}

**public** **static** **void** main(String[] args) {

Child c = **new** Child();

Parent d = (Parent)c;// UP casting

d.m1();// child class

d.m2();//parent class

}

}

Output:

m1 method of child class

m1 method of parent class

2. Down casting: When we are casting from Parent class into child class then it is called as Down casting.

Parent p = **new** Parent();

// Child cc = (Child)p;// Down casting

//

// cc.m1();

Note: Above casting is not valid in java hence we cannot perform Down casting directly if we try then we will get ClassCastException. If we wants to perform Down Casting then we have to perform UP casting then we can do Down casting:

Example:

**public** **class** Child **extends** Parent{

**public** **void** m1()

{

System.***out***.println("m1 method of child class" );

}

**public** **static** **void** main(String[] args) {

Child c = **new** Child();

Parent d = (Parent)c;// UP casting

Child g = (Child)d;// Down Casting

g.m1();

}

}

