# **Data Types**

**What is primitive casting in java?**

Primitive Casting is used to convert primitive values from one data type to another. For example, an int value can be assigned to a float data type, or a double value can be assigned to an int data type. Casting can be either implicit or explicit.

**Implicit Casting:** In implicit casting the conversion happens automatically, without writing specific code to do the conversion. Implicit casting happens when you convert or assign a smaller value, like a byte, to a larger data type such as an int.

**Explicit Casting:** In explicit casting code has to be specifically written to perform the conversion from one primitive type to another. Explicit casting is done by using the syntax (data\_type) where data\_type is the data type that the cast is being applied to. Explicit casting happens when you convert or assign a larger value to a smaller data type.

**package** intquestions;

**class** testclass

{

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

{

**byte** b = 2;

**int** i = b; //Implicit casting

**int** j = 3;

//byte k = j;//Throws error

**byte** k = (**byte**)j; //Explicit casting

}

}

**What are the default values of primitive data types?**

The default values are given by the following example.

**package** intquestions;

**public** **class** testclass

{

**byte** b;

**short** s;

**int** i;

**long** l;

**float** f;

**double** d;

**boolean** bo;

**char** ch;

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

testclass tc = **new** testclass();

System.***out***.println("byte default value is "+tc.b);

System.***out***.println("short default value is "+tc.s);

System.***out***.println("int default value is "+tc.i);

System.***out***.println("long default value is "+tc.l);

System.***out***.println("float default value is "+tc.f);

System.***out***.println("double default value is "+tc.d);

System.***out***.println("boolean default value is "+tc.bo);

System.***out***.println("char default value is "+tc.ch);

}

}

Result:

byte default value is 0

short default value is 0

int default value is 0

long default value is 0

float default value is 0.0

double default value is 0.0

boolean default value is false

char default value is

**How is rounding performed under integer division?**

The fractional part of the result is truncated. This is known as rounding toward zero.

Example:

**public** **class** JavaExamples {

**static** **int** *a* = 5;

**static** **int** *b* = 2;

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

System.***out***.println("a/b is "+5/2); //Rounding is performed by truncating the fractional part.

}

}

Result: 2

**Can you compare a boolean with an int variable in Java?**

No. you will get compilation error.

Example:

**public** **class** JavaExamples {

**static** **int** *a* = 5;

**static** **boolean** *b* = **false**;

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

**if**(*a* == *b*) { //Error: The operator == is undefined for the argument types int, boolean

System.***out***.println("Comparing boolean with int");

}

}

}

**What is the output of the following?**

System.out.println(**1.0**/**0**);

Most of us may expect ArithmeticException, however, in this case, there will be no exception instead it prints **Infinity**.

1.0 is a double literal and double datatype supports infinity.

Example:

**package** intquestions;

**public** **class** testclass {

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

System.***out***.println("value is "+(1.0/0));

}

}

Result:

value is Infinity