Understanding Type Casting

- Converting one data type into another data type is called casting.
- In general there are two types of casting procedures.
  - ✓ Implicit Type Casting
  - ✓ Explicit Type Casting

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Implicit Type Casting:

- Converting smaller data type to larger data types is called "Implicit Type Casting".
- It is also known as Widening or Casting-Upwards.
- There is no lose of information in this type casting.

byte -> short, int, long, float, double
short -> int, long, float, double
char -> int, long, float, double
int -> long, float, double
long -> float, double
float -> double

Explicit Type Casting

- Converting larger data type to smaller data types is called “Explicit Type Casting”.
- It is also known as Narrowing or Casting-Downwards.
- There may be a chance of lose of information in this type casting.

<Destination DataType> <variableName>=(DataType) <SourceType>

- Ex: int i=90;
- byte b = (byte)i;

byte -> char
short -> byte, char
char -> byte, short
int -> byte, short, char
long -> byte, short, char, int
float -> byte, short, char, int, long
double -> byte, short, char, int, long, float

In casting what happens if source variable has value greater than the destination variable type range?

- We will not get any compile time error or runtime error, assignment will be performed by reducing its value in the range of destination variable type range.
- We can know the value by using the below formula

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[minimumRange + (result - maximumRange - 1)]