

1. Java is Statically and Dynamically Typed and Strongly Typed Language.

Statically Typed Language – Consider data type at compile time.

Dynamically Typed Language – Consider data type at run time.

Strongly Typed Language – Consider data type strictly.

Loosely Typed Language – Consider data type loosely.

2. Case sensitive – ability to identify difference between upper case and lowercase letters.

Ex – Java, C#, C

Case insensitive – Not ability to identify uppercase and lowercase letters and doesn't matter.

Ex- ABAP, Ada, Fortran, SQL

case sensitive-insensitive – uppercase and lowercase doesn't matter.

3. Identity Conversion – A conversion from a type to that same type is permitted for any type. Assigning two instance of same type is identity conversion.

```
Integer i1;  
Integer i2 = new Integer(2);  
i1 = i2;  
i1 = (Integer) i2;
```

```
double d1;  
double d2 = new Double(56);  
d1 = d2;  
d1 = (Double) d2;
```

4. Primitive Widening Conversion – Put small value into bigger value range. Does not lose information about the overall magnitude of a numeric value. There is no cast required.

```
byte => short, int, long, float, double  
short => int, long, float, double  
int => long, float, double  
long => float, double  
char => int, long, float, double  
float => double
```

```
Ex : int myInt = myByte;  
      int myInt = myShort;  
      float myFloat = myInt;  
      float myFloat = myByte
```

5. Run time constant – identify constant at run time

Ex- `final int MY_CONST = 10 * (int) Math.random();`

Compile time constant – identify constant at compile time.

Ex- `final int CONST = 10;`

6.Implicit narrowing conversion(Automatic) – Consider compile time constant and right side value is in left side type value range. It works in automatically.

Explicit narrowing conversion(Casting) – There are use to convert value of wider to narrow. It does not work in automatically.

9.can cause a loss of information, so are generally required to be explicitly cast.