
Class java.lang.Float

```
java.lang.Object
   |
   +----java.lang.Number
           |
           +----java.lang.Float
```

---

public final class **Float**
extends Number

The Float class provides an object wrapper for Float data values, and serves as a place for float–oriented operations. A wrapper is useful because most of Java's utility classes require the use of objects. Since floats are not objects in Java, they need to be "wrapped" in a Float instance.

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Variable Index

o **MAX_VALUE**
The maximum value a float can have.
o **MIN_VALUE**
The minimum value a float can have.
o **NEGATIVE_INFINITY**
Negative infinity.
o **NaN**
Not–a–Number.
o **POSITIVE_INFINITY**
Positive infinity.

Constructor Index

o **Float**(float)
Constructs a Float wrapper for the specified float value.

- **Float**(double)
  Constructs a Float wrapper for the specified double value.

Method Index

- **doubleValue**()
  Returns the double value of this Float.
- **equals**(Object)
  Compares this object against some other object.
- **floatToIntBits**(float)
  Returns the bit represention of a single–float value
- **floatValue**()
  Returns the float value of this Float object.
- **hashCode**()
  Returns a hashcode for this Float.
- **intBitsToFloat**(int)
  Returns the single–float corresponding to a given bit represention.
- **intValue**()
  Returns the integer value of this Float (by casting to an int).
- **isInfinite**(float)
  Returns true if the specified number is infinitely large in magnitude.
- **isInfinite**()
  Returns true if this Float value is infinitely large in magnitude.
- **isNaN**(float)
  Returns true if the specified number is the special Not–a–Number (NaN) value.
- **isNaN**()
  Returns true if this Float value is Not–a–Number (NaN).
- **longValue**()
  Returns the long value of this Float (by casting to a long).
- **toString**(float)
  Returns a String representation for the specified float value.
- **toString**()
  Returns a String representation of this Float object.
- **valueOf**(String)
  Returns the floating point value represented by the specified String.

Variables

- **POSITIVE_INFINITY**

```
public final static float POSITIVE_INFINITY
```

  Positive infinity.

- **NEGATIVE_INFINITY**

```
public final static float NEGATIVE_INFINITY
```

Negative infinity.

- **NaN**

```
public final static float NaN
```

Not–a–Number. *Note: is not equal to anything, including itself*

- **MAX_VALUE**

```
public final static float MAX_VALUE
```

The maximum value a float can have. The largest maximum value possible is 3.40282346638528860e+38.

- **MIN_VALUE**

```
public final static float MIN_VALUE
```

The minimum value a float can have. The lowest minimum value possible is 1.40129846432481707e–45.

Constructors

- **Float**

```
public Float(float value)
```

Constructs a Float wrapper for the specified float value.
Parameters:
value – the value of the Float

- **Float**

```
public Float(double value)
```

Constructs a Float wrapper for the specified double value.
Parameters:
value – the value of the Float

Methods

- **toString**

```
public static String toString(float f)
```

Returns a String representation for the specified float value.

Parameters:
f – the float to be converted

- **valueOf**

```
public static Float valueOf(String s) throws NumberFormatException
```

Returns the floating point value represented by the specified String.
Parameters:
s – the String to be parsed
Throws: NumberFormatException
If the String does not contain a parsable Float.

- **isNaN**

```
public static boolean isNaN(float v)
```

Returns true if the specified number is the special Not–a–Number (NaN) value.
Parameters:
v – the value to be tested

- **isInfinite**

```
public static boolean isInfinite(float v)
```

Returns true if the specified number is infinitely large in magnitude.
Parameters:
v – the value to be tested

- **isNaN**

```
public boolean isNaN()
```

Returns true if this Float value is Not–a–Number (NaN).

- **isInfinite**

```
public boolean isInfinite()
```

Returns true if this Float value is infinitely large in magnitude.

- **toString**

```
public String toString()
```

Returns a String representation of this Float object.
Overrides:
toString in class Object

o **intValue**

```
public int intValue()
```

Returns the integer value of this Float (by casting to an int).
Overrides:
intValue in class Number

o **longValue**

```
public long longValue()
```

Returns the long value of this Float (by casting to a long).
Overrides:
longValue in class Number

o **floatValue**

```
public float floatValue()
```

Returns the float value of this Float object.
Overrides:
floatValue in class Number

o **doubleValue**

```
public double doubleValue()
```

Returns the double value of this Float.
Overrides:
doubleValue in class Number

o **hashCode**

```
public int hashCode()
```

Returns a hashcode for this Float.
Overrides:
hashCode in class Object

o **equals**

```
public boolean equals(Object obj)
```

Compares this object against some other object.

Note: To be useful in hashtables this method considers two Nan floating point values to be equal. This is not according to IEEE specification
Parameters:

obj – the object to compare with

Returns:

true if the objects are the same; false otherwise.

Overrides:

equals in class Object

- **floatToIntBits**

```
public static int floatToIntBits(float value)
```

Returns the bit represention of a single–float value

- **intBitsToFloat**

```
public static float intBitsToFloat(int bits)
```

Returns the single–float corresponding to a given bit represention.
