utility methods:

`parseXxx()`:

- We can use `parseXxx()` methods to to convert `String` to `primitive` ***Form 1:***
- Every wrapper class except `Character` class contains the following `parseXxx()` method to find a `primitive` for the given `String` object. `public static primitive parseXxx(String s);`

Example:

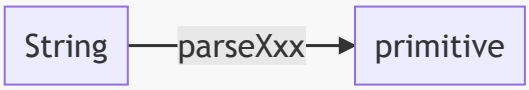
```
int i = Integer.parseInt("10");
double d = Double.parseInt("10.5");
boolean b = Boolean.parseBoolean("true");
```

Form 2:

- Every integral type wrapper class [`Byte`, `Short`,`Integer`, `Long`] contains the following `parseXxx()` method to convert specified radix `String` to `primitive`.
  `public static primitive parseXxx(String s, int radix);`
- The allowed range of radix is *2* to *36*

Example:

```
int i = Integer.parseInt("1111", 2);
System.out.println(i);  => 15
```



`toString()`:

- We can `toString()` method to convert wrapper objects or primitives to `String`. ***Form 1:***
- Every wrapper class contains the following `toString()` to convert wrapper objects to `String` type.
  `public String toString();`\
- It's an *overrided* version of `Object` class `toString()` method.
- Whenever we are trying to print wrapper object *reference* internally this `toString()` method will be called.

Example:

```
Integer I = new Integer(10);
String s = I.toString();
System.out.println(s);   => 10
System.out.println(I);   <=>  System.out.println(I.toString()); => 10
```

Form 2:

- Every wrapper class including `Character` class contains the following *static* `toString()` to convert `primitive` to `String`. `public static String toString(primitive p);`\

Example:

```
String s = Integer.toString(10);
String s = Boolean.toString(true);
String s = Character.toString('a');
```

Form 3:

- `Integer` and `Long` classes containn the following `toString()` method to convert `primitive` to specified radix `String`.
  `public static String toString(primitive p, int radix);`
- The allowed range of radix is *2* to *36*

Example:

```
String s = Integer.toString(15, 2);
System.out.println(s);  => 1111
```

Form 4: **`toXxxString()`**

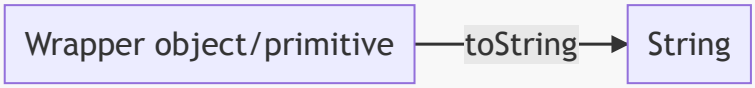
- `Integer` and `Long` classes contain the following `toXxxString()` methods:
  `public static String toBinaryString(primitive p);`
  `public static String toOctalString(primitive p);`
  `public static String toHexString(primitive p);`

Example:

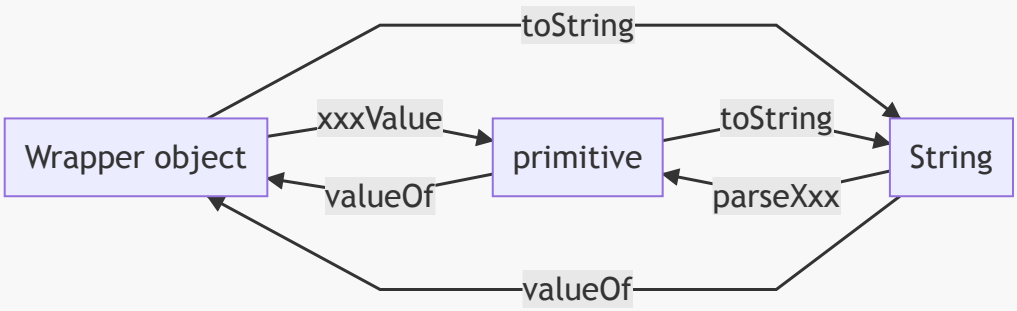
```
String s = Integer.toBinaryString(10);
System.out.println(s);                  => 1010

String s = Integer.toOctalString(10);
System.out.println(s);                  => 12
```

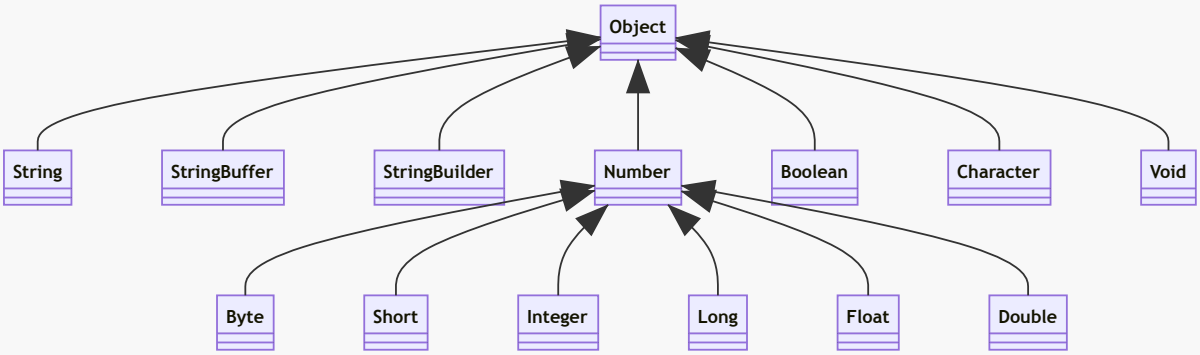
```
String s = Integer.toHexString(10);
System.out.println(s);                    => a
```



Dancing between String, wrapper object and primitive:



Partial hierarchy of java.lang package:



Conclusions:

- The wrapper classes which are not child class of `Number` are `Boolean` and `Character`.
- The wrapper classes which are not direct child of `Object` are `Byte`, `Short`, `Integer`, `Long`, `Float` and `Double`.
- `String`, `StringBuffer` and `StringBuilder` and all wrapper classes are `final` classes.
- In addition to `String` object all wrapper class objects are ***immutable***.

- Sometimes `Void` class is also considered as wrapper class.

Note:

```
javap java.lang.Void
```

Will give the following output:

- public final class java.lang.Void extends hava.lang.Object

It's a final class and a direct child of `Object`. It doesn't contain any methods and it contains only one variable: `Void.Type`.
In general we can use `Void` class in reflection to check whether the method's return type is `void` or not.

```
if (getMethod("m1").getReturnType() == Void.Type) {
    // logic here
}
```

`Void` is the class representation of `void` keyword in java.