

UNIT 2

JAVA CONVERSION

1.JAVA CONVERT STRING TO INT

If entered data is in number format, we need to convert the string to an int. To do so, we use Integer.parseInt() method.

```
public static int parseInt(String s)
```

The parseInt() is the static method of Integer class. The **signature** of parseInt() method is given below:

```
int i=Integer.parseInt("200");
```

PROGRAM

```
public class StringToIntExample1 {  
    public static void main(String args[]){  
        String s="200";  
        //Converting String into int using Integer.parseInt()  
        int i=Integer.parseInt(s);  
        System.out.println(i);  
    }  
}
```

OUTPUT:

```
200
```

2. JAVA CONVERT INT TO STRING

- convert **int to String in java** using *String.valueOf()* and *Integer.toString()* methods. Alternatively, we can use *String.format()* method, string concatenation operator etc.
- The *String.valueOf()* method converts int to String. The *valueOf()* is the static method of String class. The **signature** of *valueOf()* method is given below:

```
public static String valueOf(int i)
```

1. `int i=10;`
2. `String s=String.valueOf(i);`//Now it will return "10"

PROGRAM

```
class Main {  
    public static void main(String[] args) {  
  
        // create int variable  
        int num1 = 36;  
        int num2 = 99;  
  
        // convert int to string  
        // using valueOf()  
        String str1 = String.valueOf(num1);  
        String str2 = String.valueOf(num2);  
        // print string variables  
        System.out.println(str1); // 36  
        System.out.println(str2); // 99  
    }  
}
```

OUTPUT:

```
36  
99
```

3. JAVA CONVERT STRING TO LONG

To convert **String to long in java** using *Long.parseLong()* method. If entered data is long, we need to convert string to long. To do so, we use Long.parseLong() method.

```
public static long parseLong(String s)
```

```
long l=Long.parseLong("200");
```

PROGRAM

```
public class StringToLongExample{  
    public static void main(String args[]){  
        String s="9990449935";  
        long l=Long.parseLong(s);  
        System.out.println(l);  
    }  
}
```

OUTPUT:

```
9990449935
```

4. JAVA CONVERT LONG TO STRING

We can convert **String to long in java** using *Long.parseLong()* method. It is generally used if we have to display long number in textfield in GUI application because everything is displayed as a string in form.

```
public static String valueOf(long i)
```

```
long i=9993939399L;//L is the suffix for long  
String s=String.valueOf(i);//Now it will return "9993939399"
```

PROGRAM

```
public class LongToStringExample1 {  
    public static void main(String args[]){  
        long i=9993939399L;  
        String s=String.valueOf(i);  
        System.out.println(s);  
    }  
}
```

OUTPUT:

```
9993939399
```

5.JAVA CONVERT STRING TO DOUBLE

We can convert **String to double in java** using *Double.parseDouble()* method.If entered data is double, we need to convert string to double. To do so, we use Double.parseDouble() method.

The parseDouble() is the static method of Double class. The **signature** of parseDouble() method is given below:

```
public static double parseDouble(String s)
```

```
double d=Double.parseDouble("23.6");
```

PROGRAM

```
public class StringToDoubleExample{  
    public static void main(String args[]){  
        String s="23.6";  
        double d=Double.parseDouble("23.6");  
        System.out.println(d);  
    }  
}
```

Output:

```
23.6
```

6.JAVA CONVERT DOUBLE TO STRING

This method returns the String format of the current Double object. To convert Double value to String.

- Read the required primitive double value in to the Double class reference variable (autoboxing happens).
- Convert it into a String using the **toString()** method.

PROGRAM

```
import java.util.Scanner;

public class ConversionOfDouble {
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a double value:");
        Double d = sc.nextDouble();
        String result = d.toString();
        System.out.println("The result is: "+result);
        System.out.println(Double.toString(d));
    }
}
```

OUTPUT

Enter a double value:

2548.2325

The result is: 2548.2325

7.STRING TO DATE

We can convert String to Date in java using *parse()* method of DateFormat and SimpleDateFormat classes. To learn this concept well, you should visit DateFormat and SimpleDateFormat classes.

PROGRAM

```
import java.text.SimpleDateFormat;
import java.util.Date;

public class StringToDateExample1 {
    public static void main(String[] args)throws Exception {
        String sDate1="31/12/1998";
        Date date1=new SimpleDateFormat("dd/MM/yyyy").parse(sDate1);
        System.out.println(sDate1+"\t"+date1);
    }
}
```

OUTPUT:

```
31/12/1998      Thu Dec 31 00:00:00 IST 1998
```

8.DATE TO STRING

We can convert **Date to String in java** using *format()* method of `java.text.DateFormat` class.

```
Date date = Calendar.getInstance().getTime();
DateFormat dateFormat = new SimpleDateFormat("yyyy-mm-dd hh:mm:ss");
String strDate = dateFormat.format(date);
```

PROGRAM

```
import java.text.DateFormat;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.Calendar;

public class DateToStringExample1 {
    public static void main(String args[]){
        Date date = Calendar.getInstance().getTime();
        DateFormat dateFormat = new SimpleDateFormat("yyyy-mm-dd hh:mm:ss");
        String strDate = dateFormat.format(date);
        System.out.println("Converted String: " + strDate);
    }
}
```

OUTPUT:

```
Converted String: 2017-24-28 04:24:27
```


9.CHAR TO STRING

- We can convert char to String in java using *String.valueOf(char)* method of String class and *Character.toString(char)* method of Character class
- to convert char to String in java using String.valueOf() method.

PROGRAM

```
char c='S';
String s=String.valueOf(c);

public class CharToStringExample1 {
    public static void main(String args[]){
        char c='S';
        String s=String.valueOf(c);
        System.out.println("String is: "+s);
    }
}
```

OUTPUT:

String is: S

10. STRING TO CHAR

The charAt() method returns a single character only. To get all characters, you can use loop.

```
public char charAt(int index)
```

To convert String to char in java using charAt() method.

```
String s="hello";  
char c=s.charAt(0);//returns h
```

PROGRAM

```
public class StringToCharExample1 {  
    public static void main(String args[]) {  
        String s="hello";  
        char c=s.charAt(0);//returns h  
        System.out.println("1st character is: "+c);  
    }  
}
```

OUTPUT:

```
1st character is: h
```

11.STRING TO OBJECT

We can convert String to Object in java with assignment operator. Each class is internally a child class of Object class. So you can assign string to Object directly.

Basically, there are two methods to convert String to Object. Below is the conversion of string to object using both of the methods.

Using Assignment Operator

Using Class.forName() method

Let's see the simple code to convert String to Object in java.

```
String s="hello";  
Object obj=s;
```

PROGRAM

```
public class StringToObjectExample{  
    public static void main(String args[]){  
        String s="hello";  
        Object obj=s;  
        System.out.println(obj);  
    }  
}
```

OUTPUT:

hello

12.OBJECT TO STRING

We can convert Object to String in java using toString() method of Object class or String.valueOf(object) method.

PROGRAM

```
class Emp{ }  
public class ObjectToStringExample{  
    public static void main(String args[]){  
        Emp e=new Emp();  
        String s=e.toString();  
        String s2=String.valueOf(e);  
        System.out.println(s);  
        System.out.println(s2);  
    }  
}
```

Output:

```
Emp@2a139a55  
Emp@2a139a55
```

13.INT TO LONG

We can convert int to long in java using assignment operator. There is nothing to do extra because lower type can be converted to higher type implicitly. It is also known as implicit type casting or type promotion.

PROGRAM

```
public class IntToLongExample1 {  
    public static void main(String args[]) {  
        int i=200;  
        long l=i;  
        System.out.println(l);  
    }  
}
```

Output

200

14.LONG TO INT

We can convert long to int in java using typecasting. To convert higher data type into lower, we need to perform typecasting. Long is a larger data type than int, we need to explicitly perform typecasting for the conversion. Typecasting is performed through the typecast operator. There are basically three methods to convert long to int:

1. By type-casting
2. Using toIntExact() method
3. Using intValue() method of the Long wrapper class.

Typecasting in java is performed through typecast operator (*datatype*).

PROGRAM

```
public class LongToIntExample1 {  
    public static void main(String args[]){  
        long l=500;  
        int i=(int)l;  
        System.out.println(i);  
    }  
}
```

Output

500

15.INT TO DOUBLE

We can convert int to double in java using assignment operator. There is nothing to do extra because lower type can be converted to higher type implicitly

It is also known as implicit type casting or type promotion.

PROGRAM

```
public class IntToDoubleExample1 {  
    public static void main(String args[]){  
        int i=200;  
        double d=i;  
        System.out.println(d);  
    }  
}
```

Output

200.0

16.DOUBLE TO INT

We can convert double to int in java using typecasting. To convert double data type into int, we need to perform typecasting.

Typecasting in java is performed through typecast operator (*datatype*).

PROGRAM

```
public class DoubleToIntExample1 {  
    public static void main(String args[]){  
        double d=10.5;  
        int i=(int)d;  
        System.out.println(i);  
    }  
}
```

Output:

```
10
```


17.CHAR TO INT

We can convert char to int in java using various ways. If we direct assign char variable to int, it will return ASCII value of given character.If char variable contains int value, we can get the int value by calling *Character.getNumericValue(char)* method. Alternatively, we can use *String.valueOf(char)* method.

PROGRAM

```
public class CharToIntExample1 {  
    public static void main(String args[]){  
        char c='a';  
        char c2='1';  
        int a=c;  
        int b=c2;  
        System.out.println(a);  
        System.out.println(b);  
    }  
}
```

Output:

97

49

18.INT TO CHAR

We can convert int to char in java using typecasting. To convert higher data type into lower, we need to perform typecasting. Here, the ASCII character of integer value will be stored in the char variable.

To get the actual value in char variable, you can add '0' with int variable. Alternatively, you can use Character.forDigit() method.

PROGRAM

```
public class IntToCharExample1 {  
    public static void main(String args[]){  
        int a=65;  
        char c=(char)a;  
        System.out.println(a);  
    }  
}
```

Output:

A

19.STRING TO BOOLEAN

- To convert String into Boolean object, we can use *Boolean.valueOf(string)* method which returns instance of Boolean class.
- To get boolean true, string must contain "true". Here, case is ignored. So, "true" or "TRUE" will return boolean true. Any other string value except "true" returns boolean false.
- The `parseBoolean()` is the static method of Boolean class. The signature of `parseBoolean()` method is given below:

```
public static int parseBoolean(String s)
```

Let's see the simple example of converting String to boolean in java.

PROGRAM

```
public class StringToBooleanExample{  
    public static void main(String args[]){  
        String s1="true";  
        String s2="TRue";  
        String s3="ok";  
        boolean b1=Boolean.parseBoolean(s1);  
        boolean b2=Boolean.parseBoolean(s2);  
        boolean b3=Boolean.parseBoolean(s3);  
        System.out.println(b1);  
        System.out.println(b2);  
        System.out.println(b3);  
    }  
}
```

OUTPUT:

```
true  
true  
false
```

20.BOOLEAN TO STRING

We can convert boolean to String in java using *String.valueOf(boolean)* method.

Alternatively, we can use *Boolean.toString(boolean)* method which also converts boolean into String.

1) String.valueOf()

The String.valueOf() method converts boolean to String. The valueOf() is the static method of String class. The signature of valueOf() method is given below:

```
public static String valueOf(boolean b)
```

PROGRAM

```
public class BooleanToStringExample1 {  
    public static void main(String args[]) {  
        boolean b1=true;  
        boolean b2=false;  
        String s1=String.valueOf(b1);  
        String s2=String.valueOf(b2);  
        System.out.println(s1);  
        System.out.println(s2);  
    }  
}
```

Output:

```
true  
false
```

21.DATE TO TIMRSTAMP

- We can convert Date to Timestamp in java using *constructor of java.sql.Timestamp class*.
- The constructor of Timestamp class receives long value as an argument. So you need to convert date into long value using *getTime() method of java.util.Date class*.
- You can also format the output of Timestamp using java.text.SimpleDateFormat class.

```
Timestamp(long l)
```

getTime() method of Date class:

```
public long getTime()
```

PROGRAM

```
import java.sql.Timestamp;
import java.util.Date;
public class DateToTimestampExample1 {
    public static void main(String args[]){
        Date date = new Date();
        Timestamp ts=new Timestamp(date.getTime());
        System.out.println(ts);
    }
}
```

Output:

```
2017-11-02 01:59:30.274
```

22.TIMESTAMP TO DATE

We can convert Timestamp to Date in java using *constructor of java.util.Date class*. The constructor of Date class receives long value as an argument. So, you need to convert Timestamp object into long value using *getTime() method of java.sql.Timestamp class*.

Let's see the constructor of Date class and signature of getTime() method.

```
Date(long l)
```

getTime() method of Timestamp class:

```
public long getTime()
```

PROGRAM

```
import java.sql.Timestamp;
import java.util.Date;
public class TimestampToDateExample1 {
    public static void main(String args[]){
        Timestamp ts=new Timestamp(System.currentTimeMillis());
        Date date=new Date(ts.getTime());
        System.out.println(date);
    }
}
```

OUTPUT:

```
Thu Nov 02 02:29:07 IST 2017
```

23.BINARY TO DECIMAL

We can convert binary to decimal in java using *Integer.parseInt()* method or custom logic.**Java Binary to Decimal conversion: Integer.parseInt()**The Integer.parseInt() method converts string to int with given radix. The signature of parseInt() method is given below:

```
public static int parseInt(String s,int radix)
```

Let's see the simple example of converting binary to decimal in java.

PROGRAM

```
public class BinaryToDecimalExample1 {  
    public static void main(String args[]){  
        String binaryString="1010";  
        int decimal=Integer.parseInt(binaryString,2);  
        System.out.println(decimal);  
    }  
}
```

OUTPUT:

10

24.DECIMAL TO BINARY

We can convert decimal to binary in java using *Integer.toBinaryString()* method or custom logic. Java Decimal to Binary conversion: *Integer.toBinaryString()* The *Integer.toBinaryString()* method converts decimal to binary string. The signature of *toBinaryString()* method is given below:

```
public static String toBinaryString(int decimal)
```

PROGRAM

```
public class DecimalToBinaryExample1 {  
    public static void main(String args[]){  
        System.out.println(Integer.toBinaryString(10));  
        System.out.println(Integer.toBinaryString(21));  
        System.out.println(Integer.toBinaryString(31));  
    }  
}
```

OUTPUT:

```
1010  
10101  
11111
```

25.HEX TO DECIMAL

We can convert hexadecimal to decimal in java using *Integer.parseInt()* method or custom logic.**Java Hexadecimal to Decimal conversion: Integer.parseInt()**The *Integer.parseInt()* method converts string to int with given radix. The signature of *parseInt()* method is given below:

```
public static int parseInt(String s,int radix)
```

Let's see the simple example of converting hexadecimal to decimal in java.

PROGRAM

```
public class HexToDecimalExample1 {  
    public static void main(String args[]){  
        String hex="a";  
        int decimal=Integer.parseInt(hex,16);  
        System.out.println(decimal);  
    }  
}
```

OUTPUT:

10

26.DECIMAL TO HEX

To convert decimal to hexadecimal, use any of the two methods i.e.

- `Integer.toHexString()` – It returns a string representation of the integer argument as an unsigned integer in base 16.
- `Integer.parseInt()` – It allows you to set the radix as well, for example, for hexadecimal set it as 16.

Let us see an example now to convert decimal to hexadecimal using `Integer.toHexString()` method.

PROGRAM

```
public class Demo {  
  
    public static void main( String args[] ) {  
  
        int dec = 158;  
  
        System.out.println(Integer.toHexString(dec));  
  
    }  
  
}
```

Output

9e

27.OCTAL TO DECIMAL

We can convert octal to decimal in java using *Integer.parseInt()* method or custom logic.

Java Octal to Decimal conversion: Integer.parseInt()The Integer.parseInt() method converts a string to an int with the given radix. If you pass 8 as a radix, it converts an octal string into decimal. Let us see the signature of parseInt() method:

```
public static int parseInt(String s,int radix)
```

Let's see the simple example of converting octal to decimal in java.

PROGRAM

```
//Java Program to demonstrate the use of Integer.parseInt() method
//for converting Octal to Decimal number
public class OctalToDecimalExample1{
public static void main(String args[]){
//Declaring an octal number
String octalString="121";
//Converting octal number into decimal
int decimal=Integer.parseInt(octalString,8);
//Printing converted decimal number
System.out.println(decimal);
}}
```

Output

81

28.DECIMAL TO OCTAL

We can convert decimal to octal in java using *Integer.toOctalString()* method or custom logic.**Java Decimal to Octal conversion: Integer.toOctalString()**

The *Integer.toOctalString()* method converts decimal to octal string. The signature of *toOctalString()* method is given below:

```
public static String toOctalString(int decimal)
```

Let's see the simple example of converting decimal to octal in java.

PROGRAM

```
//Java Program to demonstrate the use of Integer.toOctalString() method
public class DecimalToOctalExample1{
    public static void main(String args[]){
        //Using the predefined Integer.toOctalString() method
        //to convert decimal value into octal
        System.out.println(Integer.toOctalString(8));
        System.out.println(Integer.toOctalString(19));
        System.out.println(Integer.toOctalString(81));
    }
}
```

Output

```
10
23
121
```