

## AP COMPUTER SCIENCE A – SIMPLE CONVERT BASES CLASS WORK

This assignment illustrates the use of the `String.substring ( int beginIndex, int endIndex )` and `substring ( int beginIndex )` methods, the `Integer.parseInt ( String s, int radix )` method, and the `Integer.toString ( int i, int radix )` method, to convert integers between binary, octal, decimal and hexadecimal.

Type in the program `SimpleConvertBases.java` pretty much as listed.

```
public class SimpleConvertBases {
    /**/
    public static void main ( String [] arg ) {
        /**/
        int decimal;
        /**/
        if ( arg.length != 1 ) {
            System.out.println();
            System.out.println("Usage:");
            System.out.println("java SimpleConvertBases intInBase");
            return;
        }
        /**/
        decimal=getDecimal(arg[0]);
        System.out.println();
        System.out.println( "      binary = 0b" + Integer.toString(decimal, 2) );
        System.out.println( "      octal = 0" + Integer.toString(decimal, 8) );
        System.out.println( "      decimal = " + Integer.toString(decimal) );
        System.out.println( "hexadecimal = 0x" + Integer.toString(decimal,16) );
        /**/
        return;
    }
    /**/
    public static int getDecimal ( String s ) {
        /**/
        if ( s.substring(0,2).equals("0b") ) return Integer.parseInt(s.substring(2), 2);
        else if ( s.substring(0,2).equals("0x") ) return Integer.parseInt(s.substring(2),16);
        else if ( s.substring(0,1).equals("0" ) ) return Integer.parseInt(s.substring(1), 8);
        else
            return Integer.parseInt(s);
    }
}
```

Invoke the program via

- i)** `java SimpleConvertBases 0b11111111`
- ii)** `java SimpleConvertBases 0377`
- iii)** `java SimpleConvertBases 255`
- iv)** `java SimpleConvertBases 0xff`

In all four cases, the output should be

```
      binary = 0b11111111
      octal = 0377
      decimal = 255
hexadecimal = 0xff
```