Exercise 1 *Deadline: 17 October, 2013.*

THE JAVA PROGRAMMING LANGUAGE

THE NUMBER TO WORDS CONVERTER

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Exercise

There are many occasions when it is necessary to output a numeric value using text rather than numeric digits. A common example is the production of cheques. These usually require both the numeric and the spoken–word equivalent text to be printed.

Write the program, which will convert an integer to the corresponding word form. The integers pass into the program using the line arguments.

Use arrays with numerals in your program. Define a class `NumberWordsConverter` with the method `main` and add the following declarations to the class:

```
public class NumberWordsConverter
{
    private final static String[] smallNumbers =
    {
        "Zero", "One", "Two", "Three", "Four",
        "Five", "Six", "Seven", "Eight", "Nine",
        "Ten", "Eleven", "Twelve", "Thirteen", "Fourteen",
        "Fifteen", "Sixteen", "Seventeen", "Eighteen", "Nineteen"
    };
    private final static String[] tens =
    {
        "", "", "Twenty", "Thirty", "Forty",
        "Fifty", "Sixty", "Seventy", "Eighty", "Ninety"
    };
    private final static String[] scaleNumbers =
    {
        "", "Thousand", "Million", "Billion"
    };

    public static String convert (Integer i)
    {
        // convert an integer into words...
    }

    public static void main (String[] args)
    {
        for (String x: args) {
            Integer i = new Integer(x);
            System.out.format("%d = %s\n",i,convert(i));
        }
    }
}
```

In this example code, we will declare three arrays. An array of twenty items holds the small numbers, an array of ten items is used for the tens values (with two initial unused entries) and an array of four values contains the scale number names with the first entry containing an empty string.

Hint

You can see a similar program on the website:

`http://www.calculator.org/calculate-online/mathematics/text-number.aspx`