/\*

**Project #3: Numbers to Words**

Develop a program that is able to read an arbitrary integer number from the command line, then

prints out that number in words. For example:

- **Input**: 20 **Output**: twenty

- **Input**: 86 **Output**: eighty six\*/

/\* Solution: \*/

class NumberToWord1 {

static void convert\_to\_words(char[] num)

{

int len = num.length;

if (len == 0) {

System.out.println("empty string");

return;

}

if (len > 4) {

System.out.println(

"Length more than 4 is not supported");

return;

}

String[] single\_digits = new String[] {

"zero", "one", "two", "three", "four",

"five", "six", "seven", "eight", "nine"

};

/\* The first string is not used, it is to make

array indexing simple \*/

String[] two\_digits = new String[] {

"", "ten", "eleven", "twelve",

"thirteen", "fourteen", "fifteen", "sixteen",

"seventeen", "eighteen", "nineteen"

};

String[] tens\_multiple = new String[] {

"", "", "twenty", "thirty", "forty",

"fifty", "sixty", "seventy", "eighty", "ninety"

};

String[] tens\_power= new String[] { "hundred", "thousand" };

System.out.print(String.valueOf(num) + ": " );

if (len == 1) {

System.out.println(single\_digits[num[0] - '0']);

return;

}

int x = 0;

while (x < num.length) {

/\* Code path for first 2 digits \*/

if (len >= 3) {

if (num[x] - '0' != 0) {

System.out.print(

single\_digits[num[x] - '0'] + " ");

System.out.print(tens\_power[len - 3]

+ " ");

// here len can be 3 or 4

}

--len;

}

else {

if (num[x] - '0' == 1) {

int sum

= num[x] - '0' + num[x + 1] - '0';

System.out.println(two\_digits[sum]);

return;

}

else if (num[x] - '0' == 2

&& num[x + 1] - '0' == 0) {

System.out.println("twenty");

return;

}

else {

int i = (num[x] - '0');

if (i > 0)

System.out.print(tens\_multiple[i]

+ " ");

else

System.out.print("");

++x;

if (num[x] - '0' != 0)

System.out.println(

single\_digits[num[x] - '0']);

}

}

++x;

}

}

public static void main(String[] args)

{

convert\_to\_words("20".toCharArray());

convert\_to\_words("86".toCharArray());

convert\_to\_words("365".toCharArray());

}

}

/\*

Output:

A screenshot of a computer

Description automatically generated\*/