Using the Alphabet

In the beginning, computer programs were designed to do purely numerical problems, such as solving differential equations. But the computer can also process text data (i.e. letters, characters) just as easily!

All data inside the computer's brain must ultimately be numerical. So, to manipulate text, we use ASCII code or Unicode to give each symbol we want to type a numerical value. These codes are "case sensitive", which means that capital and lowercase letters are distinguished by different values. 'A' is 65 while 'a' is 97; 'B' is 66 while 'b' is 98, and so on.

ASCII code may seem a little strange to us. As human beings, we tend to think of the letter A as letter number 1, rather than 65. This will be our first task….

Create a new source file. Inside, create these two functions:

1. A function `int2char` that takes an integer parameter whose value is somewhere from 1 to 26. The function will return the corresponding capital letter. For example, if the parameter is 3, the function should return the character 'C'.
2. Let's go the other way! Write a function `char2int` that takes a character parameter, and returns the corresponding integer from 1-26. The function should allow the character parameter to be in either capital or lowercase.

If you are using Python, then you would, as usual, use a string data type instead of character.

Error checking – your functions should throw an exception or print an error message if the input parameter is invalid.

Implementation hint: In Java, if you type, for example, 'A' in your source code, this actually represents the integer that is the ASCII code for the letter A. In Python, check out the functions ord() and chr(). What do they do?

Once you have written the two functions above, you are now ready to write your main routine. Inside, you should write a loop to print the alphabet, which will go something like this in pseudocode:

```
for i = 1 to 26
   call the int2char function, and print this character
```

Your output should look like this, with a newline character at the end:

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
```