H3: Run-Length Encoding

Write a program that implements a simple form of run-length encoding as described on Wikipedia. On the Wikipedia page, read the introduction and the first part of the example carefully to be sure you fully understand the algorithm.

For this assignment, accepted input characters are all characters from 'a' to 'z'. The expected output is <*number*><*character*>, repeated for each run of characters. Here <*number*> is the amount of times <*character*> is repeated in sequence.

Some examples:

```
aaeeeeae = 2a4e1a1e
```

```
rr44errre = invalid input
```

```
eeeeeeeeeeeeeeeeeeeee = 21e
```

The program should take 'uncompressed data' as input: a string from *cin*. It should then compress the data and store the compressed data in two corresponding vectors, one for the run lengths, and one for the characters. (compare Section 12.6 in the zyBook)

Finally, it should print the compressed data: print the contents of the two vectors to cout.

Examples of correct execution of the program are shown below:

```
Enter the data to be compressed: aaabbssssaad
```

```
The compressed data is: 3a2b4s2a1d
```

```
Enter the data to be compressed: aaAbbcccddd
```

```
error: invalid input
```