Exercise 1: Lambda function

1. First think what this code does, try to guess the output and then try the code out to check if you were right!

```
z = range(2,7)
map(lambda x: x**2, z)
```

2. Use filter and lambda function to show the even values in the list z

Exercise 2: Regular expressions

Preparation step:

a) Get the file '**nuc_sequence.txt**' from the lecture web page.
b) Save the nucleotide sequence of the previous file in a variable called s.
   Hint:You can use readlines() function.
   Please note that the output of this function is list,
   so you need to convert it to string.
c) Change every letter to upper case.
   Hint:use upper() function
d) Remove newlines (\n) characters.
   Hint:use replace() function

Now we can query our gene with regular expressions:

1. Find all the substrings that contain just three 'A' or more: e.g. AAA or AAAAA.
   Hint:you can use re.finditer (RE, string) fuction to iterate over the string.
2. To show the results you can use .group() and .span() functions.
   Find all the substrings that start with a 'T' and then they have two or three 'C' and then they end with a 'G'.