

# Wondrous Numbers Function

This is a **warmup** exercise. It is **not compulsory**, and may be completed **individually or with your lab partner**.

Download `printWondrous.c`, or copy it into your current directory on a CSE system by running

```
$ cp /web/cs1511/17s2/week07/files/printWondrous.c .
```

You have been given a main function and an incomplete `printWondrous` function to complete.

This function takes in an integer and must print out the Wondrous Sequence starting with that number, followed by a single new line character.

The Wondrous Sequence is generated by the simple rule:

- if the current term is even: the next term is half the current term.
- if the current term is odd: the next term is three times the current term, plus 1.

For example the sequence generated by starting with 3 is: 3 10 5 16 8 4 2 1

Your function is to print a single new line character '\n' after printing the final 1, and then nothing else.

Apart from printing out the sequence, your function must return the number of terms in the printed sequence (which the main function will print out).

## Some Examples

```
Enter a number: 17
17 52 26 13 40 20 10 5 16 8 4 2 1
The count is 13.
```

```
Enter a number: 1
```

```
1
```

```
The count is 1.
```

To run some simple automated tests:

```
$ 1511 autotest printWondrous
```

To run Styl-o-matic:

```
$ 1511 stylomatic printWondrous.c
```

```
Looks good!
```

You'll get advice if you need to make changes to your code.

Submit your work with the *give* command, like so:

```
$ give cs1511 wk07_printWondrous
```

Or, if you are working from home, upload the relevant file(s) to the `wk07_printWondrous` activity on [Give Online](#).