**Grains**

In Practice Mode

Introduction

Calculate the number of grains of wheat on a chessboard given that the number on each square doubles.

There once was a wise servant who saved the life of a prince. The king promised to pay whatever the servant could dream up. Knowing that the king loved chess, the servant told the king he would like to have grains of wheat. One grain on the first square of a chess board. Two grains on the next. Four on the third, and so on.

There are 64 squares on a chessboard.

Write code that shows:

* how many grains were on each square, and
* the total number of grains

For bonus points

Did you get the tests passing and the code clean? If you want to, these are some additional things you could try:

* Optimize for speed.
* Optimize for readability.

Then please share your thoughts in a comment on the submission. Did this experiment make the code better? Worse? Did you learn anything from it?

Getting Started

Make sure you have read the "Guides" section of the [C track](https://exercism.io/my/tracks/c) on the Exercism site. This covers the basic information on setting up the development environment expected by the exercises.

Passing the Tests

Get the first test compiling, linking and passing by following the [three rules of test-driven development](http://butunclebob.com/ArticleS.UncleBob.TheThreeRulesOfTdd).

The included makefile can be used to create and run the tests using the test task.

make test

Create just the functions you need to satisfy any compiler errors and get the test to fail. Then write just enough code to get the test to pass. Once you've done that, move onto the next test.

As you progress through the tests, take the time to refactor your implementation for readability and expressiveness and then go on to the next test.

Try to use standard C99 facilities in preference to writing your own low-level algorithms or facilities by hand.