Problem Set 1 Exercise #05: Investment

Reference: Lecture 2 notes

Learning objectives: Integer division; Math functions

Estimated completion time: 20 minutes

Problem statement:

If you invest *principal* amount of money (in dollars) at *rate* percent interest rate compounded annually, in *num_years* years, your investment will grow to

$$\frac{principal * (1 - (rate/100)^{num\_years+1})}{1 - rate/100}$$

dollars.

Write a program **investment.c** that accepts positive integers *principal*, *rate* and *num_years* and computes the amount of money earned after *num_years* years, presented in two decimal places. You may assume that the interest rate is always smaller than 100.

Hint:

You may need to use the **`pow()`** function provided by math library. Remember to include **`math`** library in the pre-processor directive and use '**`-lm`**' flag during compilation.

Sample run #1:

```
Enter principal amount: 100
Enter interest rate   : 8
Enter number of years : 5
Amount = $108.70
```

Sample run #2:

```
Enter principal amount: 1234
Enter interest rate   : 12
Enter number of years : 10
Amount = $1402.27
```