

## PROBLEM 2: PAYING DEBT OFF IN A YEAR (15/15 points)

Now write a program that calculates the minimum **fixed** monthly payment needed in order pay off a credit card balance within 12 months. By a fixed monthly payment, we mean a single number which does not change each month, but instead is a constant amount that will be paid each month.

In this problem, we will *not* be dealing with a minimum monthly payment rate.

The following variables contain values as described below:

1. `balance` - the outstanding balance on the credit card
2. `annualInterestRate` - annual interest rate as a decimal

The program should print out one line: the lowest monthly payment that will pay off all debt in under 1 year, for example:

```
Lowest Payment: 180
```

Assume that the interest is compounded monthly according to the balance at the end of the month (after the payment for that month is made). The monthly payment must be a multiple of \$10 and is the same for all months. Notice that it is possible for the balance to become negative using this payment scheme, which is okay. A summary of the required math is found below:

**Monthly interest rate** = (Annual interest rate) / 12.0

**Monthly unpaid balance** = (Previous balance) - (Minimum fixed monthly payment)

**Updated balance each month** = (Monthly unpaid balance) + (Monthly interest rate x Monthly unpaid balance)