Problem 2: Paying Debt Off in a Year

(15 points possible)

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)

Test Cases to Test Your Code With. Be sure to test these on your own machine - and that you get the same output! - before running your code on this webpage!

Click to See Problem 2 Test Cases

The code you paste into the following box **should not** specify the values for the variables `balance` or `annualInterestRate` - our test code will define those values before testing your submission.

```
1 # Paste your code into this box
2
```

Unanswered

Hints

Hint: How to think about this problem?

Hint: A way of structuring your code

Reminder: Only hit "Check" once per submission. We are unable to give you more than 30 checks.

Important

Only hit "Check" once per submission. We are unable to give you more than 30 checks.

If you believe you have correct code but it is marked incorrect after clicking "Check"...

"Staff Debug: L397 Error" means your code has an infinite loop...

You have used 0 of 30 submissions

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