Problem 2

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Problem 2

1.0/1 point (ungraded)

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

```
initBalance = balance
monthlyInterestRate = annualInterestRate / 12.0
month = 0
minPay = 10
def calculate(month, balance, minPay, monthlyInterestRate):
    while month <12:
        unpaidBalance = balance - minPay
        balance = unpaidBalance + (monthlyInterestRate * unpaidBalance)
        month += 1
    return balance
while calculate(month, balance, minPay, monthlyInterestRate) > 0:
    balance = initBalance
    minPay +=10
    month = 0
    calculate(month, balance, minPay, monthlyInterestRate)
```

Press ESC then TAB or click outside of the code editor to exit

Correct

Test results

See full output

CORRECT

See full output

Hints

Hide Notes

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. You only get 30 checks per problem.
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...
Do not define your own values

Submit You have used 1 of 30 attempts

PSET2: Problem 2

Topic: Sandbox / PSET2: Problem 2

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Program lowest value differ by 10 in different cases, can't tell why 4

I was able to successfully write a code to get the values of the lowest payment, but in some cases the lowest payment is increased ...

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