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()



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

```
1 initBalance = balance
2 monthlyInterestRate = annualInterestRate / 12.0
3 \text{ month} = 0
4 \min Pay = 10
5 def calculate(month, balance, minPay, monthlyInterestRate):
      while month <12:
7
          unpaidBalance = balance - minPay
8
          balance = unpaidBalance + (monthlyInterestRate * unpaidBalance)
9
          month += 1
10
      return balance
11 while calculate(month, balance, minPay, monthlyInterestRate) > 0:
12
      balance = initBalance
13
      minPay +=10
14
      calculate(month, balance, minPay, monthlyInterestRate)
```

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

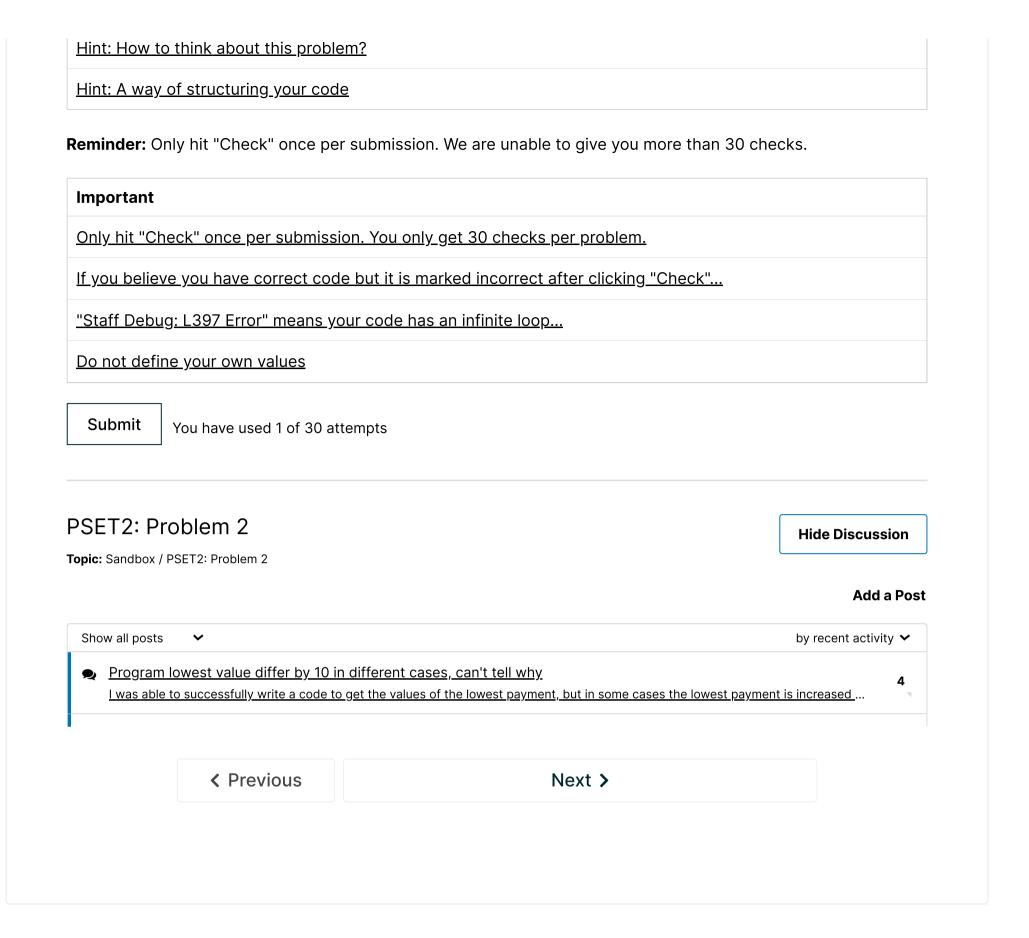
Correct

Test results

```
See full output
CORRECT
See full output
```

Hints





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