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## Problem 1

### Problem 1 - Paying Debt off in a Year

10.0/10.0 points (graded)

Write a program to calculate the credit card balance after one year if a person only pays the minimum monthly payment required by the credit card company each month.

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
3. `monthlyPaymentRate` - minimum monthly payment rate as a decimal

For each month, calculate statements on the monthly payment and remaining balance. At the end of 12 months, print out the remaining balance. Be sure to print out no more than two decimal digits of accuracy - so print

```
Remaining balance: 813.41
```

instead of

```
Remaining balance: 813.4141998135
```

So your program only prints out one thing: the remaining balance at the end of the year in the format:

```
Remaining balance: 4784.0
```



A summary of the required math is found below:

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

**Minimum monthly payment** = (Minimum monthly payment rate) x (Previous balance)

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

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

**We provide sample test cases below.** We suggest you develop your code on your own machine, and make sure your code passes the sample test cases, before you paste it into the box below.

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 1 Test Cases](#)

```
1 totalPaid = 0
2 for i in range(12):
3     monthlyPayment = balance*monthlyPaymentRate
4     totalPaid = totalPaid + monthlyPayment
5     monthlyUnpaid = balance - monthlyPayment
6     balance = monthlyUnpaid + monthlyUnpaid*(annualInterestRate/12.0)
7     #print('Month ' + str(i+1) + ' Remaining balance: ' + str(round(balance,2)))
8 print('Remaining balance: ' + str(round(balance,2)))
9
```

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

Correct



## Test results

**CORRECT**

[See full output](#)

[See full output](#)

### Hints

Only two decimal digits of accuracy?

How to think about this problem?

To help you get started, here is a rough outline of the stages you should probably follow in writing your code:

- For each month:
  - Compute the monthly payment, based on the previous month's balance.
  - Update the outstanding balance by removing the payment, then charging interest on the result.
  - Output the month, the minimum monthly payment and the remaining balance.
  - Keep track of the total amount of paid over all the past months so far.
- Print out the result statement with the total amount paid and the remaining balance.

Use these ideas to guide the creation of your code.



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 3 of 30 attempts

Problem 1 - Paying Debt off in a Year

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	<a href="#"><u>Question about Sololearn's Python 3 Tutorial</u></a> (This post was posted in the General forum a few hours ago, but so far nobody from the Com...	3
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	<a href="#"><u>Round()</u></a> Why did round() not work? But instead printed out a number to the 8th decimal place?	4
	<a href="#"><u>I cannot seem to find what is wrong with my code</u></a> def balance1y(balance): timeinmonth = 12 `(( Snip: please post no more than a couple of line...	2
	<a href="#"><u>my code is running on IDE but this is the error I am getting this error. can you help me out.</u></a> ERROR: Received no output! Be sure that your code is not defining a function. Just write code ...	2
	<a href="#"><u>Please Help, Recursion Not Working</u></a> I decided to do this through iteration and recursion. Through iteration I used a for and it was...	6
	<a href="#"><u>All of my answers are 0.01 off.</u></a> I tested my program out in python (which used the round function) with the example and ins...	4
	<a href="#"><u>can you help??my code is showing the wrong output</u></a> < snip don't post more than a couple of lines of PSET code please >	1
	<a href="#"><u>Please find error in my code</u></a> Link to my code < snip don't post more than a couple of lines of PSET code please > This is yo...	1
	<a href="#"><u>Received no output! Be sure that your code is not defining a function</u></a> *** ERROR: Received no output! Be sure that your code is not defining a function. Just write c...	3
	<a href="#"><u>Correct in Python IDE but failure in here ?? ERROR: Expected to find a number in the line Remaining balance.</u></a>	4

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