This is CS50x

OpenCourseWare

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Credit

Implement a program that determines whether a provided credit card number is valid according to Luhn's algorithm.

```
$ python credit.py
Number: 378282246310005
AMEX
```

Specification

- In `credit.py` in `~/pset6/credit/`, write a program that prompts the user for a credit card number and then reports (via `print`) whether it is a valid American Express, MasterCard, or Visa card number, exactly as you did in Problem Set 1, except that your program this time should be written in Python.
- So that we can automate some tests of your code, we ask that your program's last line of output be `AMEX\n` or `MASTERCARD\n` or `VISA\n` or `INVALID\n`, nothing more, nothing less.
- For simplicity, you may assume that the user's input will be entirely numeric (i.e., devoid of hyphens, as might be printed on an actual card).
- Best to use `get_int` or `get_string` from CS50's library to get users' input, depending on how you to decide to implement this one.

Usage

Your program should behave per the example below.

```
$ python credit.py
Number: 378282246310005
AMEX
```

Hints

- It's possible to use regular expressions to validate user input. You might use Python's `re` (https://docs.python.org/3/library/re.html) module, for example, to check whether the user's input is indeed a sequence of digits of the correct length.

Testing

While `check50` is available for this problem, you're encouraged to first test your code on your own for each of the following.

- Run your program as `python credit.py`, and wait for a prompt for input. Type in `378282246310005` and press enter. Your program should output `AMEX`.
- Run your program as `python credit.py`, and wait for a prompt for input. Type in `371449635398431` and press enter. Your program should output `AMEX`.
- Run your program as `python credit.py`, and wait for a prompt for input. Type in `5555555555554444` and press enter. Your program should output `MASTERCARD`.

- Run your program as `python credit.py`, and wait for a prompt for input. Type in `5105105105105100` and press enter. Your program should output `MASTERCARD`.
- Run your program as `python credit.py`, and wait for a prompt for input. Type in `4111111111111111` and press enter. Your program should output `VISA`.
- Run your program as `python credit.py`, and wait for a prompt for input. Type in `4012888888881881` and press enter. Your program should output `VISA`.
- Run your program as `python credit.py`, and wait for a prompt for input. Type in `1234567890` and press enter. Your program should output `INVALID`.

Execute the below to evaluate the correctness of your code using `check50`. But be sure to compile and test it yourself as well!

```
check50 cs50/problems/2021/x/sentimental/credit
```

Execute the below to evaluate the style of your code using `style50`.

```
style50 credit.py
```

This problem will be graded only along the axes of correctness and style.

How to Submit

Execute the below, logging in with your GitHub username and password when prompted. For security, you'll see asterisks (`*`) instead of the actual characters in your password.

```
submit50 cs50/problems/2021/x/sentimental/credit
```