

# This is CS50x

OpenCourseWare

David J. Malan (<https://cs.harvard.edu/malan/>)

malan@harvard.edu

[f](https://www.facebook.com/dmalan) (<https://www.facebook.com/dmalan>) [G](https://github.com/dmalan) (<https://github.com/dmalan>) [@](https://www.instagram.com/davidjmalan/) (<https://www.instagram.com/davidjmalan/>) [in](#)

(<https://www.linkedin.com/in/malan/>) [Q](https://www.quora.com/profile/David-J-Malan) (<https://www.quora.com/profile/David-J-Malan>) [G](#)

(<https://www.reddit.com/user/davidjmalan>) [T](https://twitter.com/davidjmalan) (<https://twitter.com/davidjmalan>)

## 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 (a) in Python and (b) in CS50 IDE.
- 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
```

## Testing

No `check50` for this problem, but be sure to test your code 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`.

## 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/2020/x/sentimental/credit
```