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Pset1 name: Credit

YT Channel: [Kilo Education](#)

Credit



VISA

MasterCard

American Express

13 or 16

16

15

4...

51,52,53,54,55...

34,37...

Luhn's Algorithm:

1. Multiply every other digit by 2, starting with the number's second-to-last digit, and then add those products' digits together.
2. Add the sum to the sum of the digits that were not multiplied by 2.
3. If the total's last digit is 0 (or, put more formally, if the total modulo 10 is congruent to 0), the number is valid!

Basic Algorithm:

1-get number

2-calc the check sum

4-check for card length and starting digits

5-print AMEX, MASTERCARD, VISA or INVALID

Detailed Algorithm:

1-get number

2-check if the number is valid

Continue

Else

Repeat one

While (number != 0)

Counter + 1

If the digit position is odd

3-get every other digit

-calc mod 10 to the number (get the last digit)

4- multiply this digit by two

5- add every digit in the result to the check sum

Else

6- add the digit to the check sum

-remove this digit

7- check for the length and the starting digits

counter

-calc mod $10^{(n_digits - used_digits)}$ to number

-remove this digits

8-print according to the length and starting digits if the card is (AMEX, MASTERCARD, VISA, INVALID)

If the length = 13 && the starting digit = 4 (VISA)

Else if the length = 15 && the starting digits = 34 or 37(AMEX)

Else the length = 16

If the starting digits = 51, 52, 53, 54, 55 (MASTERCARD)

Else if the starting digit = 4 (VISA)

If non check is satisfied (INVALID)

لِلْحَمْدِ لِلَّهِ الَّذِي هَدَانَا لِهَذَا وَمَا كُنَّا لِنَهْتَدِيَ لَوْلَا أَنَّ هَدَانَا اللَّهُ