

Validate Credit Card

Card Length

Typically, credit card numbers are all numeric and the length of the credit card number is between 12 digits to 19 digits.

Hidden information

1. *Major Industry Identifier (MII)*

The first digit of the credit card number is the Major Industry Identifier (MII). It designates the category of the entry which issued the card.

- 1 and 2 – Airlines, 3 – Travel, 4 and 5 – Banking and Financial, 6 – Merchandising and Banking/Financial, 7 – Petroleum, 8 – Healthcare, Telecommunications, 9,0 – Unknown

2. *Issuer Identification Number (IIN)*

The first 6 digits are the Issuer Identification Number. It will identify the institution that issued the card. Following are some of the major IINs.

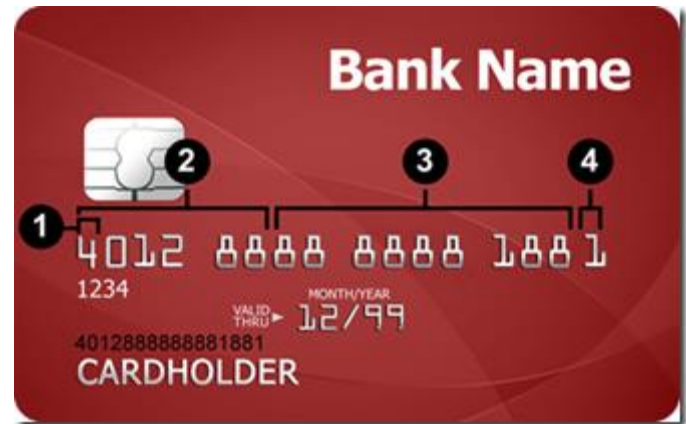
- Amex – 34xxxx and 37xxxx
- Visa – 4xxxxx
- MasterCard – 51xxxx to 55xxxx
- Discover – 6011xx, 644xxx, 65xxxx
- Any Other – Unknown

3. *Account Number*

Taking away the 6 identifier digits and the last digit, remaining digits are the person's account number (7th and following excluding last digit)

4. *Check digits*

The last digit is known as check digit or checksum. It is used to validate the credit card number using Mod 10 algorithm.



MOD 10 algorithm.

The steps used to validate a credit card number.

4 0 1 2 8 8 8 8 8 8 8 8 1 8 8 1

Step 1 - Starting with the check digit double the value of every other digit (right to left every 2nd digit)

4	0	1	2	8	8	8	8	8	8	8	8	1	8	8	1
x2		x2		x2		x2		x2		x2		x2		x2	
8		2		16		16		16		16		2		16	

Step 2 - If doubling of a number results in a two digits number, add up the digits to get a single digit number. This will results in eight single digit numbers.

4	0	1	2	8	8	8	8	8	8	8	8	1	8	8	1
x2		x2		x2		x2		x2		x2		x2		x2	
8		2		7		7		7		7		2		7	

Step 3 - Now add the un-doubled digits to the odd places

4	0	1	2	8	8	8	8	8	8	8	8	1	8	8	1
x2		x2		x2		x2		x2		x2		x2		x2	
8		2		7		7		7		7		2		7	
	0		2		8		8		8		8		8		1

Step 4 - Add up all the digits in this number

4	0	1	2	8	8	8	8	8	8	8	8	1	8	8	1
x2		x2		x2		x2		x2		x2		x2		x2	
8		2		7		7		7		7		2		7	
	0		2		8		8		8		8		8		1
8+0+2+2+7+8+7+8+7+8+7+8+2+8+7+1															
= 90															

If the final sum is divisible by 10, then the credit card number is valid. If it is not divisible by 10, the number is invalid.

If the card is invalid display “Invalid Card Number. The check digit should have been x”.

otherwise display “The Card Number is Valid” and the MII, IIN, /Account Number and Check digit
