Black Box Tests

Test 1

Test for valid Visa card; make valid number starting with 4 and 16 digits long

4648093404436011

Return: true

Test 2

Test for valid MasterCard 1; make valid number starting with 53 and 16 digits long; start 51, length 16; start 55, length 16

5367285541230002

5167285541230087

5567285594720139

Return: true

Test 3

Test MasterCard 2; start 2500 and 16 digits; start 2221 and 16 digits; start 2720 and 16 digits

2500481953470138

2221554353470086

2720554345470232

Return: true

Test 4

Test American Express 1; start 34 and 15 digits

342118546520112

Return: true

Test 5

Test American Express 2; start 37 and 15 digits

372818546520110

Return: true

Test 6

Test Visa length 15 and 17

481245753450088

48124357583450113

Return: false

Test 7

Test MasterCard length 15 and 17

544759153450063

54474591573450170

Return: false

Test 8

Test American Express length 14 and 16

34274165480089

3428741625480089

Return: false

Test 9

Test invalid start; start with 1, 21, 56, 6, 7, 8, 9, 0; length 16

1846573256750128

2146573256750149

5624573256750101

6624573256750109

7777573256750102

8777573256750100

9027573256750098

0127573256750104

Return: false

Test 10

Test invalid length; start 4, length 18, 19, 20, 14, 13, 12, 11, 10, 9

420185472359100060

4201854672359100073

42017854723559100118

481050128

4814050086

48140050096

481410050126

4814106050081

48141046050122

Return: false

Test 11

Test bound MasterCard; length 16, start 50, 56, 2220, 2721

5018047652480104

5618047652480108

2220047652480154

2721047652480158

Return: false

Test 12

Test bound American Express; length 15, start 33, 35, 36, 38

334970215480097

354970215480126

364970215480140

384970215480120

Return: false

Test 13

Test bad checksum; start 4/length 16, start 51/length 16, start 34/length15

4105794035201465

5105794035201465

341097451205745

Return: false

Test 14

Send empty string as card number

Return: false