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# This purpose of this program is to detect whether a provided number is a valid credit card number.

define a function asking the user for input
    declare variable string = ask user for credit card number
    declare variable numbers = convert string input to list of integers
    IF   the function for calculating the card length evaluates true:
         then call the validation function
    ELSE:
         display the string "The credit card number you entered is invalid"

define a function for calculating the card length
    declare variable length = the amount of digits in numbers
    IF the length of the credit card number is between 13 and 16 digits:
        IF the first digit in numbers is equal to 4, 5, 6 or 37, then:
           return true which means that the credit card number is valid
   ELSE:
        return false which means that the credit card number is invalid

define a function for validating the credit card number
    declare variable odd results = the outcome of the function that calculates the odd digits
    declare variable even results = the outcome of the function that calculates the even digits
    declare variable sum of results = odd results + even results
    IF the sum of the results mod 10 is equal to zero:
        display the string "This credit card number is valid" to the user
    ELSE:
        display the string "this credit card number is invalid" to the user

define a function for calculating the numbers in the even places of the list numbers
    declare a variable sum even = initialized at zero
    declare a variable even digit = the sliced list reduced to the numbers in the even places
    Create a for loop which counts from zero to the end of the even digit list
        declare a variable number = multiply the even placed digits by 2
        IF number is greater than 9
          declare a variable str number = the number that is bigger than 9 gets converted to string
          number = the str number [0] + the str number [1]
        sum even = sum even + number
    return sum even



define a function for calculating the numbers in the odd places of the list numbers
    declare a variable sum odd = initialized at zero
    declare a variable odd digit = the sliced list reduced to the numbers in the odd places
    Create a for loop which counts from zero to the end of the odd digit list
        sum odd = sum odd + the odd digits
    return the sum of the odd
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define a main function that defines our first function ask user
    Call function ask user

    IF the name of function = “main”:
        Then call the main function
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