

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
FOR i in the range from zero until the end of the even digits list:
    declare a variable number = the even digits[i] * 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
FOR i in the range from zero until the end of the odd digits list:
    sum odd = sum odd + the odd digits[i]
return the sum of the odd
```

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