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1 #This purpose of this program is to detect whether a provided number is a valid credit card number.
2
3 define a function asking the user for input
4     declare variable string = ask user for credit card number
5     declare variable numbers = convert string input to list of integers
6     IF the function for calculating the card length evaluates true:
7         then call the validation function
8     ELSE:
9         display the string "The credit card number you entered is invalid"
10
11 define a function for calculating the card length
12     declare variable length = the amount of digits in numbers
13     IF the length of the credit card number is between 13 and 16 digits:
14         IF the first digit in numbers is equal to 4, 5, 6 or 37, then:
15             return true which means that the credit card number is valid
16     ELSE:
17         return false which means that the credit card number is invalid
18
19 define a function for validating the credit card number
20     declare variable odd results = the outcome of the function that calculates the odd digits
21     declare variable even results = the outcome of the function that calculates the even digits
22     declare variable sum of results = odd results + even results
23     IF the sum of the results is divisible by 10 and has a remainder of 0
24         display the string "This credit card number is valid" to the user
25     ELSE
26         display the string "this credit card number is invalid" to the user
27
28 define a function for calculating the numbers in the even places of the list numbers
29     declare a variable sum even = initialized at zero
30     declare a variable even digit = the sliced list reduced to the numbers in the even places
31     create a for loop which counts from zero to the end of the even digit list
32     declare a variable number = multiply the even placed digits by 2
33     IF number is greater than 9
34         declare a variable strnumber = the number that is bigger than 9 gets converted to string
35         number = add each individual digit of the number that is bigger than 9 (strnumber)
36         sum even = sum even + number
37     return sum even
38
39 define a function for calculating the numbers in the odd places of the list numbers
40     declare a variable sum odd = initialized at zero
41     declare a variable odd digit = the sliced list reduced to the numbers in the odd places
42     create a for loop which counts from zero to the end of the odd digit list
43         sum odd = sum odd + the odd digits
44     return the sum of the odd

```

45

46 `define a main function` that defines our first function ask user

47 This function calls the ask user function and executes it.

