

```

function z_calculo_insc_estadual .
*"_-----
*"*"Interface local:
*"  IMPORTING
*"    VALUE(IE) LIKE KNA1-STCD3
*"    VALUE(ESTADO) LIKE KNA1-REGIO
*"    VALUE(CLIENTE) TYPE CHAR1 OPTIONAL
*"  EXPORTING
*"    VALUE(RET) TYPE CHAR1
*"    VALUE(MSG) TYPE SY-MSGV1
*"  EXCEPTIONS
*"    NAO_NUMERICO
*"    TAMANHO_INVALIDO
*"_-----

data v_ien like kna1-stcd3.
data v_chv02 like zkcp0002-chv01.
data v_txt01 like zkcp0002-txt01.
data v_txt02 like zkcp0002-txt02.
* Verificação genérica
if ie = 'ISENTO'.
  ret = 'X'.
  msg = text-001.
  exit.
endif.
replace all occurrences of '.' in ie with ''.
replace all occurrences of '/' in ie with ''.
replace all occurrences of '-' in ie with ''.
condense ie no-gaps.

if not ie co '0123456789 '.
  if estado eq 'SP' and ie(01) eq 'P'.
    else.
      raise nao_numerico.
    endif.
  endif.

case estado.

  when 'AC'. "Formato: 11 dígitos+2 dígitos verificadores

    perform acre using ie.
    if dv = ie+11(02).
      ret = 'X'.
      msg = text-001.
    else.
      ret = ''.
      msg = text-002.
    endif.

  when 'AL'. "Formato: 24XNNNNND
    perform alagoas using ie.
    if dv = ie+8(01).
      ret = 'X'.
      msg = text-001.
    else.
      ret = ''.
      msg = text-002.
    endif.

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when 'AP'. "Formato: 03NNNNNND
perform amapa using ie.
if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'AM'.

perform panovedig using ie.

if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'BA'. " 6 Caracteres e DOIS DIGITOS 999999DD mod 10

v_ien = ie.
v_len = strlen( ie ).

if ie(1) co '0123458' and v_len = 8.
    perform seisdig using ie.
    if dv = ie+6(02).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.
elseif ie(1) co '679' and v_len = 8.
    perform baseisdig using ie.
    if dv = ie+6(02).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.
elseif ie(1) co '0123458' and v_len = 9.
    perform basetedig using ie.
    if dv = ie+7(02).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.
elseif ie(1) co '679' and v_len = 9.
    perform basetedigt using ie.
    if dv = ie+7(02).
        ret = 'X'.
        msg = text-001.

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    else.
        ret = ''.
        msg = text-002.
    endif.
endif.

when 'CE'.
    perform cenovedig using ie.

    if dv = ie+8(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.

when 'DF'. "Formato: 11 digitos+2 digitos verificadores"
    if ie(02) ne 07.
        ret = ''.
        msg = text-002.
        exit.
    endif.
    perform onzedig using ie.
    if dv = ie+11(02).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.

when 'ES'.

    perform esnovedig using ie.

    if dv = ie+8(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.

when 'GO'.

    perform gonovedig using ie.

    if digrestd = 1.
        if ie(8) >= '10103105' and ie(8) <= '10119997' .
            dv = '1'.
        else.
            dv = '0'.
        endif.
    endif.

    if dv = ie+8(01).
        ret = 'X'.
    endif.

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    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'MA'.

if ie(02) ne 12.
    ret = ''.
    msg = text-002.
    exit.
endif.

perform manovedig using ie.

if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'MT'. "Formato: 10 dígitos+2 dígitos verificadores
v_ien = ie.
v_len = strlen( ie ).
if v_len = 9.
    concatenate '00' ie into v_ien.
endif.

perform dezdig using v_ien.
if dv = v_ien+10(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'MS'.

perform msnovedig using ie.

if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'MG'. "Formato: 11 dígitos+2 dígitos verificadores
"FORMATO GERAL: A1A2A3B1B2B3B4B5B6C1C2D1D2
"Onde: A= Código do Município
"B= Número da inscrição
"C= Número de ordem do estabelecimento
"D= Dígitos de controle
perform minas_gerais using ie.

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if dv = ie+11(02).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'PA'.

if ie(02) ne 15.
    ret = ''.
    msg = text-002.
    exit.
endif.

perform panovedig using ie.

if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'PB'.

perform sernovedig using ie.

if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'PR'. "Formato: 08 dígitos+2 dígitos verificadores
perform oitodig using ie.
if dv = ie+8(02).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'PE'. "Formato 07 digitos + 2 digitos verificadores

perform setedig using ie.
if dv = ie+7(02).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

```

```

endif.

when 'PI'.

perform sernovedig using ie.

if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'RJ'.

perform riodejan using ie.
if dv = ie+7(02).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'RN'.

if ie(02) ne 20.
    ret = ''.
    msg = text-002.
    exit.
endif.
v_len = strlen( ie ).
if v_len = 9.
    perform rnnovedig using ie.
    if dv = ie+8(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.

elseif v_len = 10.
    perform rndezdig using ie.
    if dv = ie+9(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.
else.
    ret = ''.
    msg = text-002.
    exit.
endif.

when 'RS'.

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```

perform novedigrs using ie.
if dv = ie+9(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'RO'.

v_len = strlen( ie ).
if v_len = 9.

    if ie(03) ne 101.
        ret = ''.
        msg = text-002.
        exit.
    endif.

    perform ronovedig using ie.
    if dv = ie+8(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.

elseif v_len = 14.
    perform roqtzdig using ie.
    if dv = ie+13(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.
else.
    ret = ''.
    msg = text-002.
    exit.
endif.

when 'RR'.
perform roraima using ie.
if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'SC'.

perform scnovedig using ie.
if dv = ie+8(01).

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    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'SP'.

if ie(1) = 'P'.
    perform saopaulop using ie.
    if dv = ie+9(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.
else.
    perform saopauloc using ie.
    if dv(1) = ie+8(01) and dv+1(1) = ie+11(01).
        ret = 'X'.
        msg = text-001.
    else.
        ret = ''.
        msg = text-002.
    endif.
endif.

when 'SE'.

perform sernovedig using ie.

if dv = ie+8(01).
    ret = 'X'.
    msg = text-001.
else.
    ret = ''.
    msg = text-002.
endif.

when 'TO'. "99999999D 8 Numeros + DV

v_ien = ie.
v_len = strlen( ie ).
if v_len = 11.
    if not ie+2(02) co '01239'.
        ret = ''.
        msg = text-002.
        exit.
    endif.
    concatenate ie(02) ie+4 into v_ien.
endif.

perform tonovedig using v_ien.

if dv = v_ien+8(01).
    ret = 'X'.
    msg = text-001.

```

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else.
    ret = ''.
    msg = text-002.
endif.

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endcase.

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endfunction.

```

Include com as rotinas

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*-----*
***INCLUDE LZNFE_APPL_003F01 .
*-----*
*&-----*
*&      Form  ACRE
*&-----*
form onzedig using ie.
    data v_tot(2) type n.
    hlp_control = '43298765432'.
    v_len = strlen( ie ).
    if v_len <> 13.
        raise tamanho_invalido.
    endif.
    shift_number = ie(11).
    clear: i, digsum, digit1, digit2, digrest.
    "Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
    do 11 times.
        i = i + 1.
        write: shift_number(1) to digit1, hlp_control(1) to digit2.
        digsum = digsum + ( digit1 * digit2 ).
        shift shift_number left.
        shift hlp_control left.
    enddo.
* Result modulo 11 is calculated.
    digrest = digsum mod 11.
    v_tot = 11 - digrest.

    if v_tot = 10 or v_tot = 11.
        digit1f = 0.
    else.
        digit1f = v_tot.
    endif.

    " Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador
    clear: i, digsum, digit1, digit2, digrest.
    hlp_control = '543298765432'.
    shift_number = ie(11).

    concatenate shift_number digit1f into shift_number.
    do 12 times.
        i = i + 1.
        write: shift_number(1) to digit1, hlp_control(1) to digit2.
        digsum = digsum + ( digit1 * digit2 ).
        shift shift_number left.
        shift hlp_control left.
    enddo.

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* Result modulo 11 is calculated.
digrest = digsum mod 11.

v_tot = 11 - digrest.

if v_tot = 10 or v_tot = 11.
    digit2f = 0.
else.
    digit2f = v_tot.
endif.

concatenate digit1f digit2f into dv.

endform.                                " ACRE
*&-----*
*&      Form ALAGOAS
*&-----*
form alagoas using ie.
    hlp_control = '98765432'.
*24 - Código do Estado
    if ie(02) ne 24.
        exit.
    endif.

* FORMAÇÃO: 24XNNNNND
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.

* 0-Normal, 3-Produtor Rural,5-Substituta,
* 7- Micro-Empresa Ambulante, 8-Micro-Empresa
* IF NOT ie+2(01) CO '03578'.
*   EXIT.
*   ENDIF.

shift_number = ie(8).
clear: i, digsum, digit1, digit2, digrest.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrest = digsum mod 11.
if digrest = 0 or digrest = 1.
    digit1f = 1.
else.
    digit1f = 11 - digrest.
endif.
dv = digit1f.
endform.                                " ALAGOAS
*&-----*
*&      Form AMAPA
*&-----*

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*      text
*-----*
*      -->P_IE  text
*-----*
form amapa using      ie.
  data: p type i,
        d type i.

  data: p type i,
        d type i.

  hlp_control = '98765432'.
*03 - Código do Estado
  if ie(02) ne 03.
    exit.
  endif.

* FORMAÇÃO: 03XNNNNND
  v_len = strlen( ie ).
  if v_len <> 9.
    raise tamanho_invalido.
  endif.

  shift_number = ie(8).

  if shift_number between '03000001' and '03017000'.
    p = 5.
    d = 0.
  elseif shift_number between '03017001' and '03019022'.
    p = 9.
    d = 1.
  elseif shift_number => '03019023'.
    p = 0.
    d = 0.
  endif.

  clear: i, digsum, digit1, digit2, digrest.
  do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
  enddo.
  digsum = digsum + p.
* Result modulo 11 is calculated.
  digrestd = digsum mod 11.
  digit1d = 11 - digrestd.
  if digit1d = 10.
    digit1f = 0.
  elseif digit1d = 11.
    digit1f = d.
  else.
    digit1f = digit1d.
  endif.
  dv = digit1f.
endform.
" AMAPA

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*&-----*
*&      Form  NOVEDIG
*&-----*
form novedig using ie.

  hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
  raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrest = digsum mod 11.
if digrest = 0 or digrest = 1.
  digit1f = 1.
else.
  digit1f = 11 - digrest.
endif.
dv = digit1f.
endform.          " NOVEDIG
*&-----*
*&      Form  OITODIG
*&-----*
form seisdig using ie.
  hlp_control = '765432'.
  v_len = strlen( ie ).
  if v_len <> 8.
    raise tamanho_invalido.
  endif.
  shift_number = ie(6).
  clear: i, digsum, digit1, digit2, digrest.
  "Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
  do 6 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
  enddo.

* Result modulo 11 is calculated.
digrest = digsum mod 10.
digit2f = 10 - digrest.

" Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador
clear: i, digsum, digit1, digit2, digrest.

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hlp_control = '8765432'.
shift_number = ie(6).

concatenate shift_number digit2f into shift_number.
do 7 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrest = digsum mod 10.
digit1f = 10 - digrest.

concatenate digit1f digit2f into dv.
endform.                                " OITODIG
*&-----*
*&      Form ACRE
*&-----*
form acre using      ie.

hlp_control = '43298765432'.
v_len = strlen( ie ).
if v_len <> 13.
  raise tamanho_invalido.
endif.
shift_number = ie(11).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada digito, excluindo os digitos verificadores.
do 11 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.
digit1d = 11 - digrestd.
if digit1d = 10 or digit1d = 11.
  digit1f = 0.
else.
  digit1f = digit1d.
endif.

" Atribui-se novamente um peso a cada digito, incluindo o primeiro digito verificador
clear: i, digsum, digit1, digit2, digrest.
hlp_control = '543298765432'.
shift_number = ie(11).

concatenate shift_number digit1f into shift_number.
do 12 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.

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    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
  digrestd = digsum mod 11.
  digit2d = 11 - digrestd.
  if digit2d = 10 or digit2d = 11.
    digit2f = 0.
  else.
    digit2f = digit2d.
  endif.

  concatenate digit1f digit2f into dv.
endform.                                " ACRE
*&-----*
*&      Form  DEZDIG
*&-----*
form dezdig using ie.
  hlp_control = '3298765432'.
  v_len = strlen( ie ).
  if v_len <> 11.
    raise tamanho_invalido.
  endif.
  shift_number = ie(10).
  clear: i, digsum, digit1, digit2, digrest.
  "Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
  do 10 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
  enddo.
* Result modulo 11 is calculated.
  digrestd = digsum mod 11.
  if digrestd = 0 or digrestd = 1.
    digit1f = 0.
  else.
    digit1f = 11 - digrestd.
  endif.
  move digit1f to dv.
endform.                                " DEZDIG
*&-----*
*&      Form  MINAS_GERAIS
*&-----*

form minas_gerais using ie.
  data v_num(2) type n.
  data v_dez(2) type n.
  hlp_control = '43298765432'.
  v_len = strlen( ie ).
  if v_len <> 13.
    raise tamanho_invalido.
  endif.
  concatenate ie(3) '0' ie+3 into shift_number.

  clear: i, digsum, digit1, digit2, digrest.
  "Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
  i = 1.

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do 12 times.
  write: shift_number(1) to digit1, i to digit2.
  v_num = ( digit1 * digit2 ).

  digsum = digsum + ( v_num(1) + v_num+1(1) ).
  shift shift_number left.
  if i = 2.
    i = 0.
  endif.
  i = i + 1.
enddo.
v_num = digsum.
v_dez = ( v_num(1) + 1 ) * 10.
digit1f = v_dez - digsum.

" Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador
clear: i, digsum, digit1d, digit2d, digrest.
hlp_control = '030211100908070605040302'.
shift_number = ie(11).

concatenate shift_number digit1f into shift_number.
do 12 times.
  i = i + 1.
  write: shift_number(1) to digit1d, hlp_control(02) to digit2d.
  digsum = digsum + ( digit1d * digit2d ).
  shift shift_number left.
  shift hlp_control left by 2 places.
enddo.
* Result modulo 11 is calculated.
digit2d = digsum mod 11.
if digit2d = '00' or digit2d = '01'.
  digit2f = 0.
else.
  digit2f = 11 - digit2d.
endif.

concatenate digit1f digit2f into dv.
endform.
" MINAS_GERAIS
*&-----*
*&      Form OITODIG
*&-----*
*      text
*-----*
*      -->P_IE text
*-----*
form oitodig using ie.
data v_tot(2) type n.
hlp_control = '32765432'.
v_len = strlen( ie ).
if v_len <> 10.
  raise tamanho_invalido.
endif.
shift_number = ie(08).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 8 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.

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    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.
v_tot = 11 - digrestd.

if v_tot = 10 or v_tot = 11.
    digit1f = 0.
else.
    digit1f = v_tot.
endif.

" Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador
clear: i, digsum, digit1, digit2, digrest.
hlp_control = '432765432'.
shift_number = ie(08).

concatenate shift_number digit1f into shift_number.
do 12 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.

v_tot = 11 - digrestd.

if v_tot = 10 or v_tot = 11.
    digit2f = 0.
else.
    digit2f = v_tot.
endif.

concatenate digit1f digit2f into dv.
endform.
" OITODIG
*&-----*
*&      Form  SETEDIG
*&-----*
form setedig using ie.

hlp_control = '8765432'.
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.
shift_number = ie(07).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 7 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.

```

```

    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0 or digrestd = 1.
    digit1f = 0.
else.
    digit1f = 11 - digrestd.
endif.

" Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador
clear: i, digsum, digit1, digit2, digrest.
hlp_control = '98765432'.
shift_number = ie(07).

concatenate shift_number digit1f into shift_number.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.

if digrestd = 0 or digrestd = 1.
    digit2f = 0.
else.
    digit2f = 11 - digrestd.
endif.

concatenate digit1f digit2f into dv.
endform.
" SETEDIG
*&-----*
*&      Form  RIODEJAN
*&-----*
form riodejan using ie.

hlp_control = '2765432'.
v_len = strlen( ie ).
if v_len <> 8.
    raise tamanho_invalido.
endif.
shift_number = ie(07).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 7 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0 or digrestd = 1.
    digit1f = 0.

```

```

else.
  digit1f = 11 - digrestd.
endif.

move digit1f to dv.
endform.                                " RIODEJAN
*&-----*
*&      Form  RNNOVEDIG
*&-----*
form rnnovedig using ie.

hlp_control = '98765432'.

shift_number = ie(08).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 8 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digr = ( digsum * 10 ) mod 11.
if digr = '10'.
  digit1f = 0.
else.
  digit1f = digr.
endif.

move digit1f to dv.
endform.                                " RNNOVEDIG
*&-----*
*&      Form  RNDEZDIG
*&-----*
form rndezdig using ie.
hlp_control = '100908070605040302'.

shift_number = ie(09).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 9 times.
  i = i + 1.
  write: shift_number(1) to digit1d, hlp_control(02) to digit2d.
  digsum = digsum + ( digit1d * digit2d ).
  shift shift_number left.
  shift hlp_control left by 2 places.
enddo.
* Result modulo 11 is calculated.
digr = ( digsum * 10 ) mod 11.
if digr = '10'.
  digit1f = 0.
else.
  digit1f = digr.
endif.

move digit1f to dv.

```

```

endform.                                "RNDEZDIG
*&-----*
*&      Form  NOVEDIGRS
*&-----*
form novedigrs using ie.

hlp_control = '298765432'.

v_len = strlen( ie ).
if v_len <> 10.
    raise tamanho_invalido.
endif.

shift_number = ie(9).

clear: i, digsum, digit1, digit2, digrest.
do 9 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.

digrestd = digsum mod 11.
digit1d = 11 - digrestd.

if digit1d = 10 or digit1d = 11.
    digit1f = 0.
else.
    digit1f = digit1d.
endif.
dv = digit1f.

endform.                                " NOVEDIGRS
*&-----*
*&      Form  RONOVEDIG
*&-----*
form ronovedig using ie.

hlp_control = '65432'.
shift_number = ie+3(5).

clear: i, digsum, digit1, digit2, digrest.
do 5 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrest = digsum mod 11.
* IF digrest = 0 OR digrest = 1.
*   digit1f = 1.
* ELSE.
digit1f = 11 - digrest.
* ENDIF.

```

```

    dv = digit1f.
endform.                                " RONOVEDIG
*&-----*
*&      Form  ROQTZDIG
*&-----*
form roqtzdig using ie.
    hlp_control = '6543298765432'.
    shift_number = ie(13).

    clear: i, digsum, digit1, digit2, digrest.
    do 13 times.
        i = i + 1.
        write: shift_number(1) to digit1, hlp_control(1) to digit2.
        digsum = digsum + ( digit1 * digit2 ).
        shift shift_number left.
        shift hlp_control left.
    enddo.
* Result modulo 11 is calculated.
    digrest = digsum mod 11.
* IF digrest = 0 OR digrest = 1.
*   digit1f = 1.
* ELSE.
    digit1f = 11 - digrest.
* ENDIF.
    dv = digit1f.
endform.                                " ROQTZDIG
*&-----*
*&      Form  RORAIMA
*&-----*
form roraima using ie.
    hlp_control = '123456789'.
*24 - Código do Estado
    if ie(02) ne 24.
        exit.
    endif.

* FORMAÇÃO: 24XNNNNND
    v_len = strlen( ie ).
    if v_len <> 9.
        raise tamanho_invalido.
    endif.

    shift_number = ie(8).
    clear: i, digsum, digit1, digit2, digrest.
    do 8 times.
        i = i + 1.
        write: shift_number(1) to digit1, hlp_control(1) to digit2.
        digsum = digsum + ( digit1 * digit2 ).
        shift shift_number left.
        shift hlp_control left.
    enddo.
* Result modulo 11 is calculated.
    digrest = digsum mod 9.
    digit1f = digrest.

    dv = digit1f.
endform.                                " RORAIMA
*&-----*
*&      Form  SAOPAULOC

```

&-----

form saopauloc using ie.

hlp_control = '0103040506070810'.

v_len = strlen(ie).

if v_len <> 12.

 raise tamanho_invalido.

endif.

move ie(8) to shift_number.

clear: i, digsum, digit1, digit2, digrest.

"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.

i = 1.

do 8 times.

 write: shift_number(1) to digit1d, hlp_control(02) to digit2d.

 digsum = digsum + (digit1d * digit2d).

 shift shift_number left.

 shift hlp_control left by 2 places.

enddo.

* *Result modulo 11 is calculated.*

digit1d = digsum mod 11.

if digit1d = '10'.

 digit1f = 0.

else.

 digit1f = digit1d.

endif.

" Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador

clear: i, digsum, digit1d, digit2d, digrest.

hlp_control = '0302100908070605040302'.

shift_number = ie(11).

concatenate shift_number digit1f into shift_number.

do 11 times.

 i = i + 1.

 write: shift_number(1) to digit1d, hlp_control(02) to digit2d.

 digsum = digsum + (digit1d * digit2d).

 shift shift_number left.

 shift hlp_control left by 2 places.

enddo.

* *Result modulo 11 is calculated.*

digit2d = digsum mod 11.

if digit2d = '10'.

 digit2f = 0.

else.

 digit2f = digit2d.

endif.

concatenate digit1f digit2f into dv.

endform. *" SAOPAULOC*

&-----

*& Form SAOPAULOP

&-----

form saopaulop using ie.

hlp_control = '0103040506070810'.

v_len = strlen(ie).

if v_len <> 13.

```

    raise tamanho_invalido.
endif.
move ie+1(8) to shift_number.

clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
i = 1.
do 8 times.
    write: shift_number(1) to digit1d, hlp_control(02) to digit2d.
    digsum = digsum + ( digit1d * digit2d ).
    shift shift_number left.
    shift hlp_control left by 2 places.
enddo.
* Result modulo 11 is calculated.
digit1d = digsum mod 11.
if digit1d = '10'.
    digit1f = 0.
else.
    digit1f = digit1d.
endif.
move digit1f to dv.
endform.                                " SAOPAULOP
*&-----*
*&      Form NOVEDIG
*&-----*
*      text
*-----*
*      -->P_IE text
*-----*
form scnovedig using ie.

hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
digit1d = 11 - digrestd.

if digit1d = 10 or digit1d = 11.
    digit1f = 0.
else.
    digit1f = digit1d.
endif.

```

```

    dv = digit1f.
endform.                                " NOVEDIG
*&-----*
*&      Form  SETEDIG
*&-----*
form basetedig using ie.

hlp_control = '8765432'.
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.
shift_number = ie(07).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 7 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrest = digsum mod 10.
digit2f = 10 - digrest.

" Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador
clear: i, digsum, digit1, digit2, digrest.
hlp_control = '98765432'.
shift_number = ie(07).

concatenate shift_number digit2f into shift_number.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrest = digsum mod 10.
digit1f = 10 - digrest.

concatenate digit1f digit2f into dv.
endform.                                " SETEDIG
*&-----*
*&      Form  OITODIG
*&-----*
form baseisdig using ie.
hlp_control = '765432'.
v_len = strlen( ie ).
if v_len <> 8.
    raise tamanho_invalido.
endif.
shift_number = ie(6).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 6 times.
    i = i + 1.

```

```

    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0 or digrestd = 1.
    digit2f = 0.
else.
    digit2f = 11 - digrestd.
endif.

" Atribui-se novamente um peso a cada dígito, incluindo o primeiro dígito verificador
clear: i, digsum, digit1, digit2, digrest.
hlp_control = '8765432'.
shift_number = ie(6).

concatenate shift_number digit2f into shift_number.
do 7 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0 or digrestd = 1.
    digit1f = 0.
else.
    digit1f = 11 - digrestd.
endif.

concatenate digit1f digit2f into dv.
endform.
" OITODIG
*&-----*
*&      Form SETEDIG
*&-----*
form basetedigt using ie.

hlp_control = '8765432'.
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.
shift_number = ie(07).
clear: i, digsum, digit1, digit2, digrest.
"Atribui-se um peso a cada dígito, excluindo os dígitos verificadores.
do 7 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrest = digsum mod 11.

```

```

if digrest = 0 or digrest = 1.
    digit2f = 0.
else.
    digit2f = 11 - digrest.
endif.

" Atribui-se novamente um peso a cada digito, incluindo o primeiro digito verificador
clear: i, digsum, digit1, digit2, digrest.
hlp_control = '98765432'.
shift_number = ie(07).

concatenate shift_number digit2f into shift_number.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.
* Result modulo 11 is calculated.
digrest = digsum mod 11.
if digrest = 0 or digrest = 1.
    digit2f = 0.
else.
    digit1f = 11 - digrest.
endif.

concatenate digit1f digit2f into dv.
endform.
" SETEDIG
*&-----*
*&      Form  NOVEDIG
*&-----*
form sernovedig using ie.

hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
digit1d = 11 - digrestd.

if digit1d = 10 or digit1d = 11.
    digit1f = 0.

```

```

else.
    digit1f = digit1d.
endif.
dv = digit1f.

endform.                                " NOVEDIG
*&-----*
*&      Form  NOVEDIG
*&-----*
form cenovedig using ie.

    hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
digit1d = 11 - digrestd.

if digit1d = 10 or digit1d = 11.
    digit1f = 0.
else.
    digit1f = digit1d.
endif.
dv = digit1f.

endform.                                " NOVEDIG
*&-----*
*&      Form  ESNAVEDIG
*&-----*
*      text
*-----*
*      -->P_IE text
*-----*
form esnovedig using ie.
    hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.

shift_number = ie(8).

```

```

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd < 2.
  digit1f = 0.
else.
  digit1f = 11 - digrestd.
endif.
dv = digit1f.
endform.                                " ESNOVEDIG
*&-----*
*&      Form  PANOVEDIG
*&-----*
form panovedig using ie.
  hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
  raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0 or digrestd = 1.
  digit1f = 0.
else.
  digit1f = 11 - digrestd.
endif.
dv = digit1f.
endform.                                " PANOVEDIG
*&-----*
*&      Form  MSNOVEDIG
*&-----*
form msnovedig using ie.
  hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.

```

```

    raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0.
    digit1d = 0.
else.
    digit1d = 11 - digrestd.
endif.
if digit1d > 9.
    dv = 0.
else.
    dv = digit1f = digit1d.
endif.
endform.                                " MSNOVEDIG
*&-----*
*&      Form  GONOVEDIG
*&-----*
*      text
*-----*
*      -->P_IE text
*-----*
form gonovedig using ie.
    hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
    raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
    i = i + 1.
    write: shift_number(1) to digit1, hlp_control(1) to digit2.
    digsum = digsum + ( digit1 * digit2 ).
    shift shift_number left.
    shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0.
    digit1f = 0.
else.

```

```

digit1f = 11 - digrestd.
endif.
dv = digit1f.

endform.                                " GONOVEDIG
*&-----*
*&      Form  MANOVEDIG
*&-----*
form manovedig using ie.
  hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
  raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd = 0.
  digit1f = 0.
else.
  digit1f = 11 - digrestd.
endif.
dv = digit1f.

endform.                                " MANOVEDIG
*&-----*
*&      Form  TONOVEDIG
*&-----*
form tonovedig using ie.
  hlp_control = '98765432'.

* FORMAÇÃO: 99999999D
v_len = strlen( ie ).
if v_len <> 9.
  raise tamanho_invalido.
endif.

shift_number = ie(8).

clear: i, digsum, digit1, digit2, digrest.
do 8 times.
  i = i + 1.
  write: shift_number(1) to digit1, hlp_control(1) to digit2.
  digsum = digsum + ( digit1 * digit2 ).
  shift shift_number left.
  shift hlp_control left.
enddo.

```

```

* Result modulo 11 is calculated.
digrestd = digsum mod 11.
if digrestd < 2.
  digit1f = 0.
else.
  digit1f = 11 - digrestd.
endif.
dv = digit1f.
endform.                " TONOVEDIG

```

Simbolos de texto:

001	Inscrição Estadual Válida	25	25
002	Inscrição Estadual Inválida	27	27

Dados globais: declaração do top include LZNFE_APPL_003TOP

```

data v_len type i.
data: i                type i,
  digit1f              type n,
  digit2f              type n,
  digit1               type n,
  digit2               type n,
  dv(02)               type c,
  digrest              type n,
  digsum               type p,
  digr                 type p,
  shift_number(25)    type c,
  hlp_control(25)     type c,
  digit1d(2)          type n,
  digit2d(2)          type n,
  digrestd(2)         type n.

```