

# Visual Basic for Application

## POČÍTAČOVÁ GRAMOTNOST



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

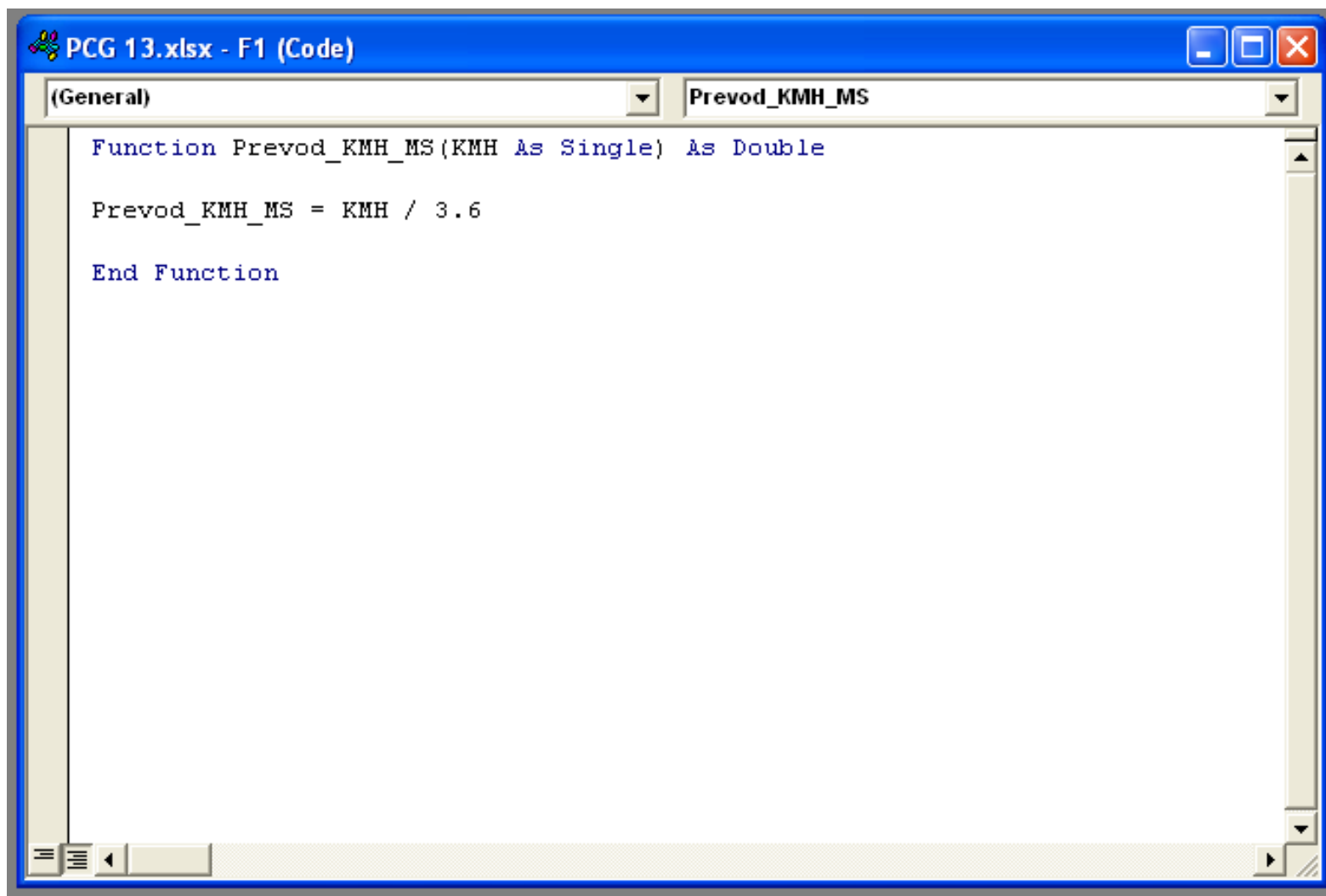
# Úvod

- Spuštění editoru: ALT+F11
- Vytvoření nového uživatelského modulu:
  - Insert - > Module
- Každá funkce začíná klíčovým slovem *Function* a končí *End Function*
- Funkce musí mít nějaké jméno
  - Název nesmí obsahovat nedovolené znaky (mezera, tečka, aj.)
  - Nepoužívat diakritiku
  - Povolené znaky: písmena anglické abecedy, čísla, podtržítko.

# Datové typy

Typ	Rozsah	Délka
Byte	0..255	1
Boolean	True nebo False	2
Integer	-32768..32767	2
Long	-2147483648..2147483647	4
Single	1,401298E-45 až 3,402823E38	4
Double	494065645841247E-324 až 179769313486232E308	8
Currency	-922337203685477,5808 až 922337203685477,5807	8
Decimal		14
Date	1. Leden 0100 až 31. prosinec 9999	8
Object	Odkaz na libovolný objekt	4
String (prom.del.)	0 až přibližně 2 miliardy	10 + del.ř.
String (pev.del.)	1 až 65 535	delka řet.
Variant (čísla)	Libovolná číselná hodnota až do rozsahu „Double“	16
Variant (znaky)	0 až přibližně 2 miliardy	22 + del.ř.

# Funkce

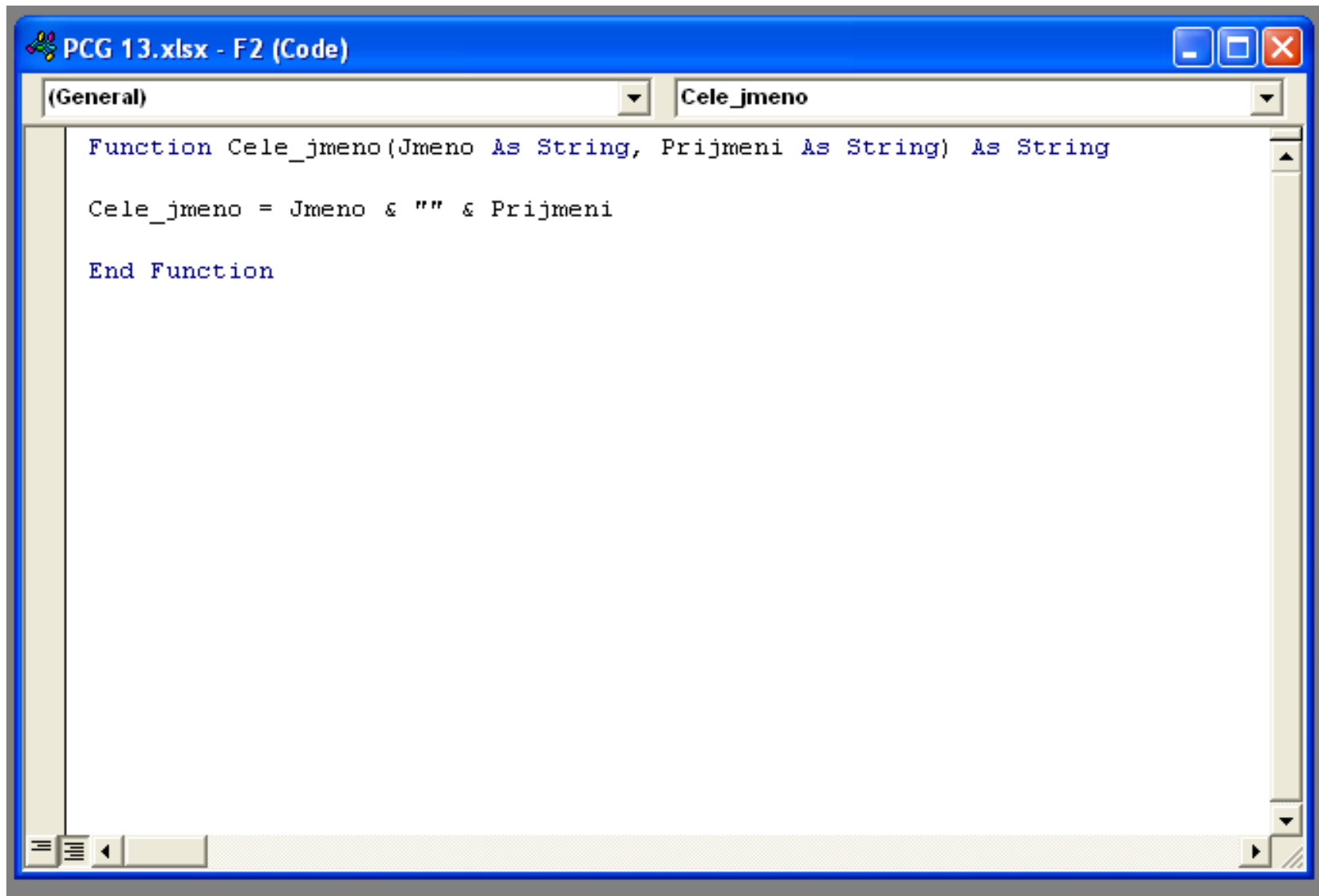


The image shows a screenshot of a VBA code editor window titled "PCG 13.xlsx - F1 (Code)". The window has a blue title bar and standard Windows window controls (minimize, maximize, close). Below the title bar, there are two tabs: "(General)" and "Prevod\_KMH\_MS". The "Prevod\_KMH\_MS" tab is active, and the code editor contains the following VBA code:

```
Function Prevod_KMH_MS(KMH As Single) As Double  
  
    Prevod_KMH_MS = KMH / 3.6  
  
End Function
```

The code defines a function named "Prevod\_KMH\_MS" that takes a single parameter "KMH" of type "Single" and returns a "Double". The function's logic is to divide the input "KMH" by 3.6 to convert kilometers per hour to meters per second. The code is displayed in a monospaced font with a light blue background.

# Funkce



The image shows a screenshot of a Microsoft Excel VBA code editor window. The window title is "PCG 13.xlsx - F2 (Code)". The editor is set to the "General" view and shows the following VBA code for a function named "Cele\_jmeno":

```
Function Cele_jmeno(Jmeno As String, Prijmeni As String) As String  
  
    Cele_jmeno = Jmeno & " " & Prijmeni  
  
End Function
```

The code defines a function that takes two string arguments, "Jmeno" and "Prijmeni", and returns a string that is the concatenation of the first name, a space, and the last name. The function is named "Cele\_jmeno".

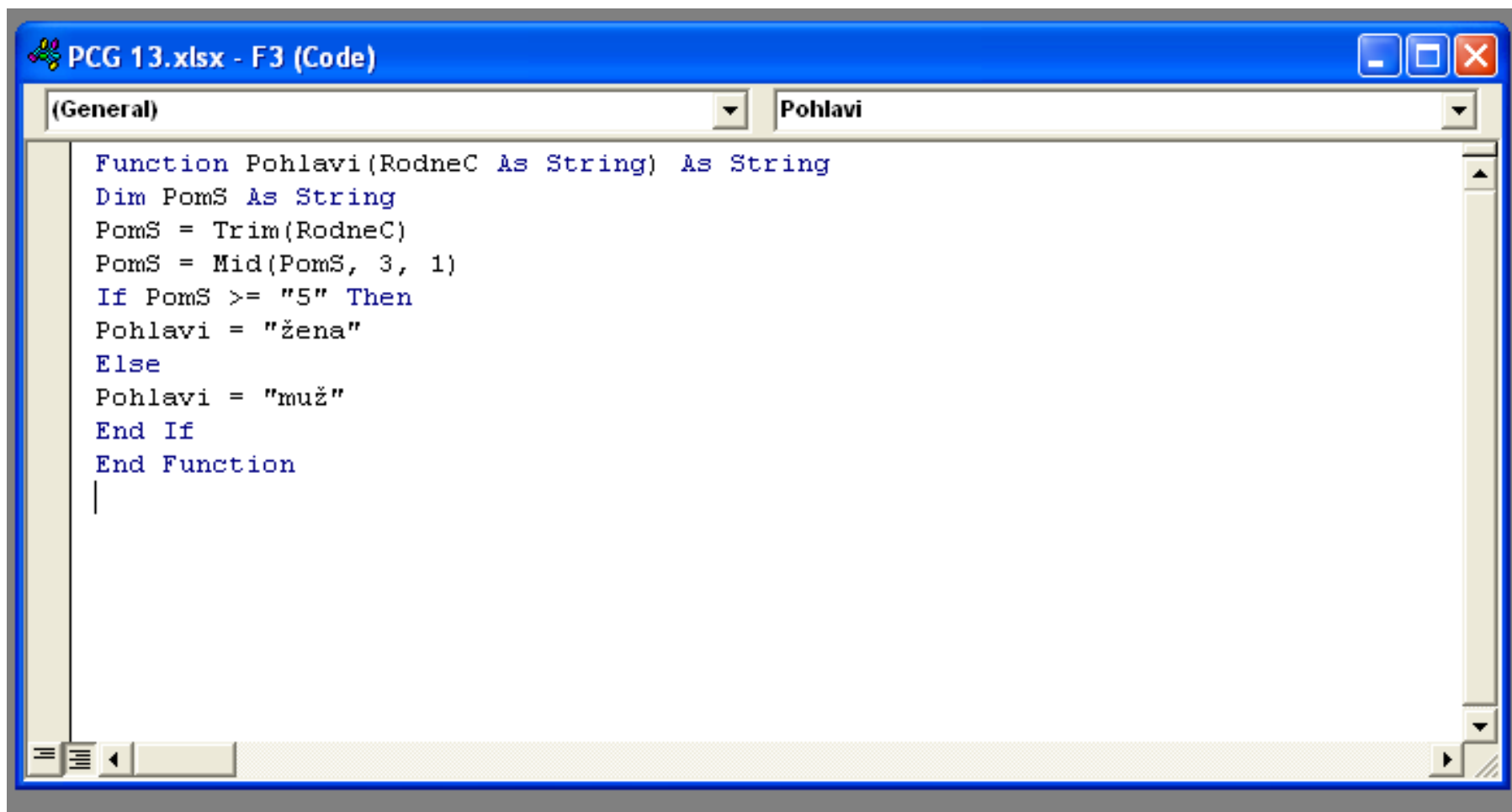
# Vložení funkce

Application.MacroOptions Macro:=„Nazev\_funkce“,  
Category:=číslo kategorie

# Úkol

- Vytvořte funkci pro výpočet povrchu kvádrů.
- Funkci vložte do kategorie matematické.

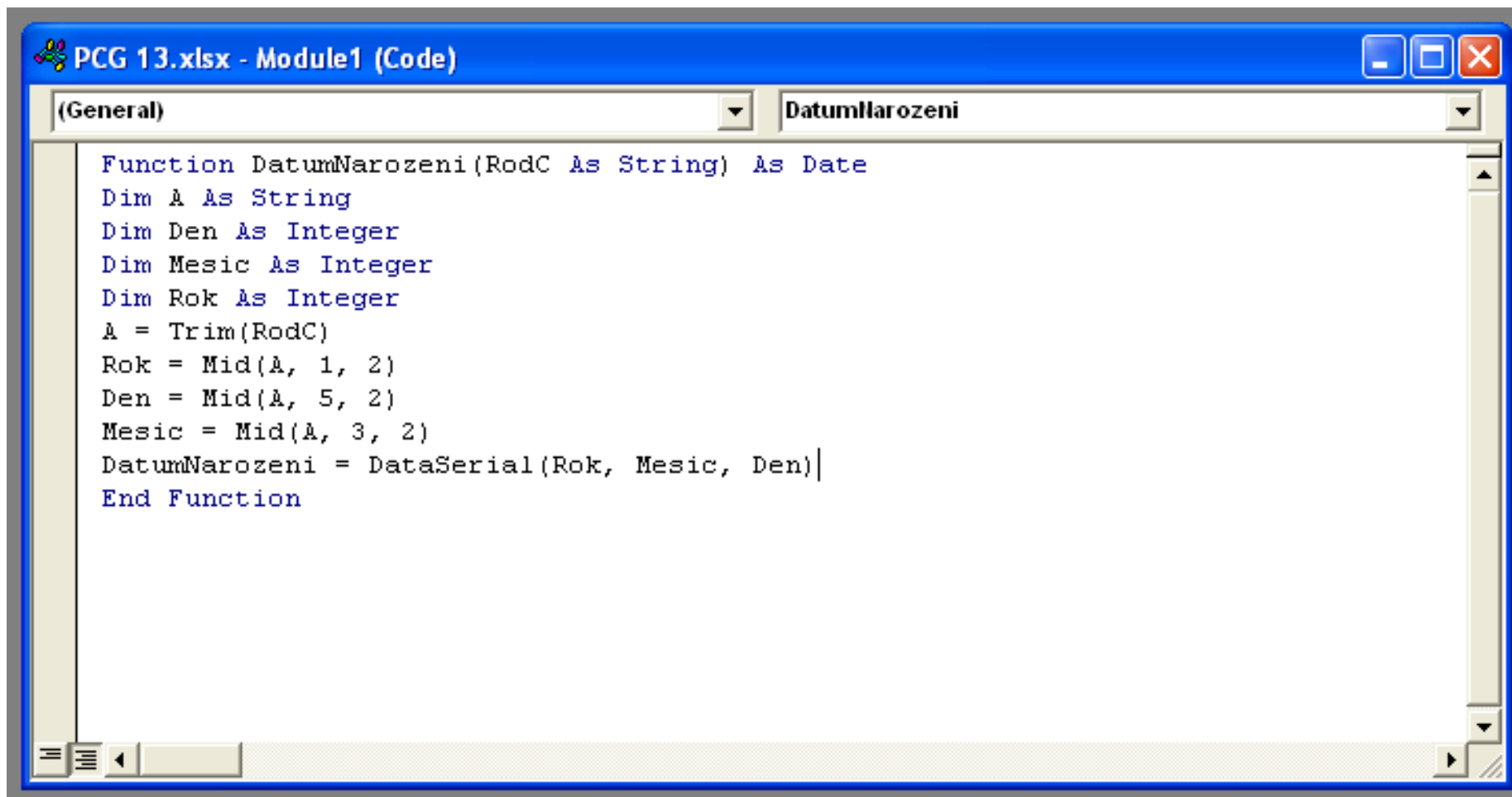
# Funkce



```
Function Pohlavi(RodneC As String) As String
Dim PomS As String
PomS = Trim(RodneC)
PomS = Mid(PomS, 3, 1)
If PomS >= "5" Then
Pohlavi = "žena"
Else
Pohlavi = "muž"
End If
End Function
|
```



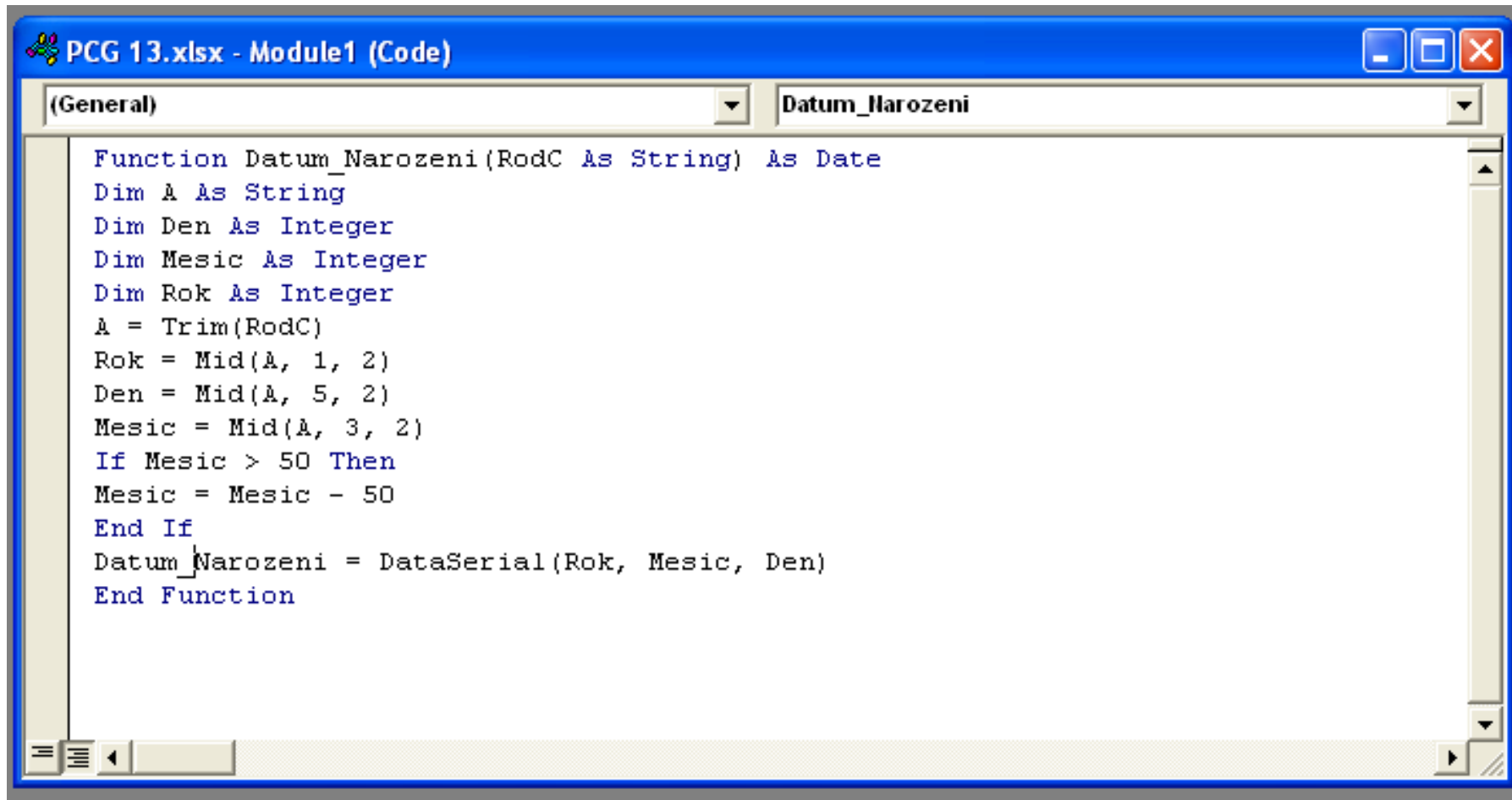
# Funkce – je v pořádku?



The image shows a screenshot of a VBA code editor window. The title bar reads "PCG 13.xlsx - Module1 (Code)". The window has a tab labeled "DatumNarozeni". The code is as follows:

```
Function DatumNarozeni(RodC As String) As Date
Dim A As String
Dim Den As Integer
Dim Mesic As Integer
Dim Rok As Integer
A = Trim(RodC)
Rok = Mid(A, 1, 2)
Den = Mid(A, 5, 2)
Mesic = Mid(A, 3, 2)
DatumNarozeni = DataSerial(Rok, Mesic, Den)
End Function
```

# Funkce – správný tvar



The image shows a screenshot of the Microsoft Excel VBA code editor. The window title is "PCG 13.xlsx - Module1 (Code)". The editor is set to the "General" tab and shows the code for a function named "Datum\_Narozeni". The function takes a string "RodC" as input and returns a "Date". The code uses the "Mid" function to extract the day, month, and year from the input string. It also includes a conditional statement to adjust the month if it is greater than 50. The function is implemented as follows:

```
Function Datum_Narozeni(RodC As String) As Date
Dim A As String
Dim Den As Integer
Dim Mesic As Integer
Dim Rok As Integer
A = Trim(RodC)
Rok = Mid(A, 1, 2)
Den = Mid(A, 5, 2)
Mesic = Mid(A, 3, 2)
If Mesic > 50 Then
Mesic = Mesic - 50
End If
Datum_Narozeni = DataSerial(Rok, Mesic, Den)
End Function
```

# Funkce



The image shows a screenshot of a VBA code editor window titled "PCG 13.xlsx - F1 (Code)". The window has a blue title bar with standard Windows window controls (minimize, maximize, close). Below the title bar, there are two tabs: "(General)" and "Obrat", with "Obrat" being the active tab. The main area of the window contains the following VBA code:

```
Function Obrat(S As String) As String
    Dim Obracen As String
    Dim i As Integer
    Obracen = ""
    For i = 1 To Len(S)
        Obracen = Mid(S, i, 1) & Obracen
    Next i
    Obrat = Obracen
End Function
```

The code defines a function named "Obrat" that takes a string "S" as input and returns a string. It uses a loop to build the reversed string "Obracen" by concatenating characters from "S" in reverse order. The function is then assigned the value of "Obracen" and ends with "End Function".