

Macro Programming

Step-by-Step Guide to Using Breakpoints in VBA

What is a Breakpoint?

A **breakpoint** is a marker set in your code that pauses the program execution at that specific line. This allows inspection of variable values and program behavior before continuing execution — an essential debugging tool.

VBA Code Sample

Listing 1: Sample VBA macro to calculate sum

```
Sub CalculateSum()  
    Dim i As Integer  
    Dim total As Integer  
    total = 0  
  
    For i = 1 To 5  
        total = total + i  
    Next i  
  
    MsgBox "Total sum is -" & total  
End Sub
```

Steps to Set and Use a Breakpoint

1. Open the VBA Editor by pressing **Alt + F11** in Excel or Word.
2. Open the module containing your code or insert a new one.
3. Click in the margin next to the line `total = total + i` or place the cursor there and press **F9** to set a breakpoint (a red dot appears).
4. Run the macro by pressing **F5** or running from Excel; execution will pause at the breakpoint.
5. Inspect variables by hovering over them or opening the Locals window (under **View > Locals Window**).
6. Press **F8** to step through the code line by line and watch the variable values update.
7. Press **F5** to continue running or **Shift + F5** to stop debugging.

Note:

- Breakpoints help stop your program at a key point to check what's happening.
- Stepwise execution allows close observation of how variables change and where logic may fail.
- This technique is powerful to find bugs and understand code flow deeply.