

## The VBA Debugger

- Debuggers can be used to help find errors in your program
- Setting up breakpoints
  - Points in the program that will 'pause' until you proceed to the next step
  - Useful in different situations
    - The program 'crashes' but you don't know where it is occurring
      - Pause before the crash
    - An incorrect result is produced but where is the calculation wrong
- Set up breakpoints
  - Click in the left margin

```

Sub debugExample ()
    Dim numerator As Long
    Dim denominator As Long
    Dim quotient As Double

    • numerator = InputBox("Enter a number")
      denominator = InputBox("Enter a number")
      quotient = numerator / denominator

    MsgBox (quotient)

End Sub

```

## The VBA Debugger (2)

- Multiple breakpoints

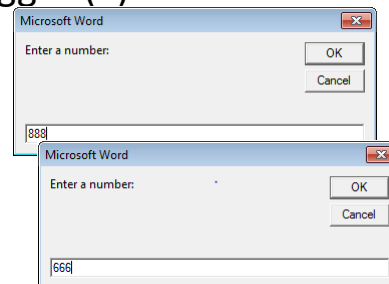
```

Sub DebugExample()
    Dim Double1 As Double
    Dim Double2 As Double
    Dim Double3 As Double

    • Double1 = InputBox("Enter a number: ")
    • Double2 = InputBox("Enter a number: ")
    • Double3 = Double1 / Double2

End Sub

```



- Program pauses when breakpoints are reached
  - The contents of variables can be displayed at that point in the program

```

Sub DebugExample()
    Dim Double1 As Double
    Dim Double2 As Double
    Dim Double3 As Double

    • Double1 = InputBox("Enter a number: ")
    • Double2 = InputBox("Enter a number: ")
    • Double3 = Double1 / Double2

```

Expression	Value	Type
Double1	0	Double
Double2	0	Double
Double3	0	Double

```

Sub DebugExample()
    Dim Double1 As Double
    Dim Double2 As Double
    Dim Double3 As Double

    • Double1 = InputBox("Enter a number: ")
    • Double2 = InputBox("Enter a number: ")
    • Double3 = Double1 / Double2

```

Expression	Value	Type
Double1	888	Double
Double2	666	Double
Double3	0	Double

## Break Points: Final Note

- They only meant as a temporary mechanism for finding the errors in your program.
  - (Having them 'permanently' included with the program would be a nuisance because it will pause at each break point).
- Consequently break points are not saved either with: the document, template or the VBA program