

Lecture 15

User Defined Functions (Chapter 8)

You may create your own small programs in Excel using the built in programming language Visual Basic for Applications VBA

Let us start with functions – A function returns a value into the cell the same way built in functions do.

Lets take a look at an example.

ALT F11 puts you in visual basic

```
INSERT  
MODULE
```

The code you write in visual basic is shown below. Also, see figure in text.

```
'To compute area of triangle  
' given two sides and an included angle  
Function Triarea(side1, side2, theta)  
    alpha = Application.Radians(theta)  
    Triarea = 0.5 * side1 * side2 * Sin(alpha)  
End Function
```

Test Function to Compute Area of Triangle

SideA	SideB	Angle	Formula	Function
1	2	90	1	1
2	2	45	1.414214	1.414214
2	2	60	1.732051	1.732051

Let's us create a more general function using the IF structure.

Let us say we want to have function to convert degree C to F or vice versa. This is the way to do it.

To convert degree C to F or vice versa

Function convertdeg(degrees, TOF)

 If TOF = 1 Then

 convertdeg = (degrees * (9 / 5)) + 32

 Else

 convertdeg = (degrees - 32) * (5 / 9)

 End If

End Function

degrees	switch	degrees
40	1	104
100	1	212
212	0	100
-40	1	-40
-40	0	-40