

Select Case Decision Structures: A **Select Case** structure is similar to an **If... Then...Elseif** structure, but it is more efficient when the branching depends on one key variable or test case. You can use **Select Case** structure to make your program code more readable and efficient.

EXAMPLE:

```

'To calculate the number of real roots
'in a quadratic equation
Function rootcount(a, b, c)
  d = (b * b) - (4 * a * c)
  Select Case d
    Case 0
      rootcount = 1
    Case Is > 0
      rootcount = 2
    Case Else
      rootcount = 0
  End Select
End Function

```

Number of real roots of a quadratic equation

a	b	c	Roots	
	1	0	-9	2
	1	-5	6	2
	1	2	8	0
	1	-8	16	1

THINGS TO REMEMBER:

Project 1 --	RESUME	due on 4/17/01	100 points
Project 2--	CURVE FITTING	due on 4/26/01	200 points

The FOR... NEXT Looping Structure:

When the repetition is to occur a specified number of times, the FOR ... NEXT structure is used. Consider an example -- Maclaurin series for sin(x):

```
Function MacSin(x, n)
  MacSin = 0
  For k = 0 To n
    j = 2 * k + 1
    MacSin = MacSin + (-1) ^ k * x ^ (j) / Application.Fact(j)
  Next k
End Function
```

Maclaurin series for sin

Terms 4

Divisor	angle	module	function	diff
1	3.141593	0.006925	1.22515E-16	-0.00693
2	1.570796	1.000004	1	-3.5E-06
3	1.047198	0.866025	0.866025404	-4.1E-08
4	0.785398	0.707107	0.707106781	-1.8E-09
5	0.628319	0.587785	0.587785252	-1.5E-10
6	0.523599	0.5	0.5	-2E-11
