

## Do While:

In the place of Do Until, you can also use Do While. Its syntax is the following:

Do While (Expression)

(Code to execute)

Loop

(Expression) can be any legal logical expression that we wish to evaluate to determine whether or not to exit the loop. Each time the program reaches Loop it will verify that this expression is True, and if it is False, it will exit the loop for us. Thus, instead of exiting when an expression is True, it now exits only once this expression is false. For more understanding let us try to write codes for the examples below:

Ex: Write a program that is able to print the numbers (0.5, 0.25, 0.125, 0.0625, 0.03125) on the form vertically, use the font (Arial), (Bold) with the size (14). Use Do While ...Loop statement.

- 1- Design part: No design part for such example.
- 2- Coding part: The coding part might be written as below:

```
Private Sub Form_Activate()
```

```
Font.Name = "arial"
```

```
Font.Size = 14
```

```
Font.Bold = True
```

```
X = 0.5
```

```
con = 1
```

```
Do While con < 6
```

```
    Print X
```

```
        X = X / 2
```

```
    con = con + 1
```

```
Loop
```

```
End Sub
```

Ex: Write a program that is able to print the numbers (29, 28, 27... 1) on the form vertically, use the font (Arial), (Bold) with the size (14). Use Do While ...Loop statement.

- 1- Design part: No design part for such example.
- 2- Coding part: The coding part might be written as below:

```
Private Sub Form_Activate()
```

```
    Font.Name = "arial"
```

```
    Font.Size = 14
```

```
    Font.Bold = True
```

```
    x = 29
```

```
    num = 1
```

```
    Do While num < 30
```

```
        Print x
```

```
            x = x - 1
```

num = num + 1

Loop

End Sub

Ex: Write a program that is able to solve the equation:

$$Y=1+\frac{2}{4^3}+\frac{3}{5^4}+\frac{4}{6^5}+\frac{5}{7^6}+\dots+\frac{12}{14^{13}}$$

Print the results on the form vertically, use the font (Arial), (Bold) with the size (14). Use Do While ...Loop statement.

- 1- Design part: No design part for such example.
- 2- Coding part: The coding part might be written as below:

```
Private Sub Form_Activate( )
```

```
Font.Name = "arial"
```

```
Font.Size = 14
```

```
Font.Bold = True
```

```
x = 2
```

```
y = 0
```

```
n = 1
```

```
Do While n < 13
```

Print n, y

$$y = (x / ((x + 2) ^ (x + 1)))$$

$$\text{Sum1} = \text{Sum1} + y$$

$$x = x + 1$$

$$n = n + 1$$

Loop

$$\text{Sum} = 1 + \text{Sum1}$$

Print Sum

End Sub