

Using Conditional Clauses with the Iterative DO Statement

```
DO WHILE(expression);  
DO UNTIL(expression);  
DO index-variable=start TO stop BY increment;
```

In this tutorial, we will look at a form of the iterative DO statement that combines features of both conditional and unconditional execution of DO loops.



You have seen how the DO WHILE and DO UNTIL statements enable you to execute statements conditionally and how the iterative DO statement enables you to execute statements a set number of times, unconditionally.

The UNTIL and WHILE specifications in an iterative DO statement function similarly to the DO UNTIL and DO WHILE statements. Both statements require a valid SAS expression enclosed in parentheses.

`DO index-variable=start TO stop BY increment UNTIL(expression);`

`DO index-variable=start TO stop BY increment WHILE(expression);`

The **UNTIL** expression is evaluated at the bottom of the DO loop, so the DO loop always executes at least once.

The **WHILE** expression is evaluated before the execution of the DO loop. So, if the condition is initially false, the DO loop never executes.



For example:

add the UNTIL or WHILE expression to an iterative DO statement to further control the number of iterations

```
data invest;  
  do year=1 to 10 until(Capital>=50000);  
    capital+2000;  
    capital + capital*.10;  
  end;  
  if year=11 then year=10;  
run;
```



Example:

In this DATA step, the DO UNTIL statement determines how many years it takes for an investment to reach \$50,000, suppose you also want to limit the number of years you invest your capital to 10 years.

This iterative DO statement enables you to execute the DO loop **until Capital is greater than or equal to 50000** or **until the DO loop executes ten times**, whichever occurs first.