Advanced Scripting   
Formatting Strings

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Document Prepared for: CYBER360 Student

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# Instructions

Save a copy of this document. Answer all questions directly in this document. You will save and upload this completed document as your homework submission. *Search and use public Internet resources to help you figure out any format-string codes that may be unfamiliar to you.*

# Overview

The .NET String class has a **Format()** static method that inserts formatted values into strings. PowerShell also has a handy format operator **-f** that performs the same work. They are culture aware and have a lot of flexibility with prebuilt formats and custom formats.

# Requirements

PowerShell

# Setup

PowerShell

# Task 1—Using the -f operator

The **-f** operator replaces a format token with a value where that token is placed in the string. They are kind of like variables in an expansion string in PowerShell. However, the tokens in the format string can have formatting information added, to display the data in meaningful ways.

## Steps

1. Earlier you learned to expand expressions within double-quoted strings. For example, enter:   
   "Hi, today is $(get-date)"
   1. What was returned? Click or tap here to enter text.
2. Let’s use the **Format()** static method to format the current date and time in a string:   
   [String]::Format('Hi, today is {0}', (get-date))
   1. What was returned? Click or tap here to enter text.
3. Now let’s do the same thing with PowerShell’s **-f** operator:   
   'Hi, today is {0}' -f (get-date)
   1. What was returned? Click or tap here to enter text.
4. Notice the subtle differences. The token in the string formatter takes the generic form:  
    **{<index>[,<alignment>][:<format specifier>]}**   
   Using the string formatter, let’s get rid of the time component:  
   'Hi, today is {0:d}' -f (get-date)
   1. What was returned? Click or tap here to enter text.
5. You can use a list to insert multiple variables in the format string:  
   $q=5  
   $item='ducks'  
   $price=7.77  
   '{0} {1} at {2:c} each totals {3:c}' -f $q, $item, $price, ($price\*$q)
   1. What was returned? Click or tap here to enter text.
   2. If you wanted to do the same thing with the static method, you could enter (all on one line):  
      **[String]::Format('{0} {1} at {2:c} each totals {3:c}', $q, $item, $price, $q\*$price)**
6. You can use the same variable more than once in a format string:   
   'Hi, today is {0:d} at {0:t}' -f (get-date)

# Task 2—Lots of format options

There are a lot of format options. In the previous task, you used the specifier **:c** (currency) to format objects of type [double], and **:d** (date) and **:t** (time) to format [DateTime] string representations.

You can type   
 **Get-Help about\_Operators -Online**   
to view additional documentation on the **-f** format operator. Better yet, there are handy references for other format specifiers at <https://ss64.com/ps/syntax-f-operator.html>. Use that site and Microsoft’s documentation to write formats for the following tasks.

## Steps

1. Write a format that will display the value in $p rounded to two decimal places.  
   $p=.375
   1. Your format expression: Click or tap here to enter text.
2. Write a format that will display the value in $p extended to six decimal places.  
   $p=.375
   1. Your format expression: Click or tap here to enter text.
3. Write a format that will display the current date with the month, day, and year as two digits (such as 12/25/24, if you’re unfortunate enough to be doing this exercise on the Christmas holiday…)
   1. Your expression: Click or tap here to enter text.
4. Given these data:   
   **$q, $item, $price = 5,**  'ducks', 7.77   
   or   
   **$q, $item, $price = 13,**  'turkeys', 18.95   
   write a format expression that will arrange these and the total ($price\*$q) like an entry on an invoice, with a vertical line (pipe) after each value, exactly ten characters between each vertical line, the item description left-justified, and currency format for the price and total, like these:  
    5|ducks | $7.77| $38.85|  
   or   
    13|turkeys | $18.95| $246.35|
   1. Your expression: Click or tap here to enter text.
5. Given these data:   
   **$specimenId, $measurement = 626, .00098764321**   
   write a format expression that will output them separated by a colon, with the specimen id as a six-digit number (padded with leading zeroes) and the measurement in scientific notation.
   1. Your expression: Click or tap here to enter text.

# Deliverable

Upload this document with completed answers to I-Learn Canvas.