Advanced Scripting   
Comparison and Logical Operators

Last Updated: 10/14/2021 7:27 PM Version 1  
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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.

# Overview

Comparison operators are used to control the program flow in your script. In this exercise you will explore the various comparison and logical operators.

# Requirements

PowerShell

# Task 1—Equality Operators

The equality operators are:

|  |  |  |  |
| --- | --- | --- | --- |
| Operator (Default) | Case  Sensitive | Case  Insensitive | Meaning |
| -eq | -ceq | -ieq | Equal |
| -neq | -cneq | -ineq | Not equal |
| -gt | -cgt | -igt | Greater than |
| -ge | -cge | -ige | Greater than or equal to |
| -lt | -clt | -ilt | Less than |
| -le | -cle | -ile | Less than or equal to |

## Steps

1. For each of the expressions predict what the value will be ($true or $false), then type the expression in PowerShell. Record the results then describe the results.

|  |  |  |  |
| --- | --- | --- | --- |
| Expression | Prediction | Result | Description |
| '' -eq $null | false | false | The value of the string is technically not null |
| 'red' -eq 'red' | true | true | The string red is equal to red |
| 'red' -eq 'Red' | true | true | The non case sensitive compariator was used |
| 'red' -ceq 'Red' | false | false | The cas sensitive compariator was used |
| 1 -gt 1 | false | false | One is not greater than one |
| 12 -gt '2' | false | true | 12 is greater than the string 2 |
| '12' -gt 2 | true | false | The string 12 is not greater than 2 |

1. When the left-hand operator is a collection (e.g. array), each item is compared, if the comparison is true the item is passed along the pipeline.
   1. Try the following  
      1,2,3,4 -ge 2
      1. What is returned?234
   2. Try  
      'a','b','c','a' -lt 'c'
      1. What is returned? aba

# Task 2—Logical Operators

Fill in the following logical truth tables

## Steps

1. For the -and operator to return true both operands must be true.

|  |  |  |
| --- | --- | --- |
| -and | $true | $false |
| $true | true | false |
| $false | false | true |

1. For the -or at least one of the operands must be true.

|  |  |  |
| --- | --- | --- |
| -or | $true | $false |
| $true | true | true |
| $false | true | false |

1. For the -xor operator to return a true one operand must be true and the other operand must be false.

|  |  |  |
| --- | --- | --- |
| -xor | $true | $false |
| $true | false | true |
| $false | true | false |

1. The -not operator is a unary operator and returns the inverse of the operand.

|  |  |
| --- | --- |
|  | -not |
| $true | false |
| $false | true |

# Deliverable

Upload this document with completed answers to i-learn.