Advanced Scripting   
Comparison and Logical Operators

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Document Prepared for: CIT361 Student

# Name Ryan Skidmore ID 615907798

# 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 | true | false | ‘’ is not equal to $null |
| 'red' -eq 'red' | true | True | 'red' is equal to 'red' |
| 'red' -eq 'Red' | true | true | they are equal as operators is not case sensitive |
| 'red' -ceq 'Red' | false | false | They are not equal due to capitalized letters |
| 1 -gt 1 | false | false | They are the same value, one is not greater than the otehr |
| 12 -gt '2' | true | true | The value is larger than the second |
| '12' -gt 2 | true | false | One is a string, has a different value than listed. |

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?2 3 4
   2. Try  
      'a','b','c','a' -lt 'c'
      1. What is returned? A b a

# 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 | false |

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 | At line:1 char:7 + $true -not $false + ~~~~ Unexpected token '-not' in expression or statement.  + CategoryInfo : ParserError: (:) [], ParentContainsErrorRecordException  + FullyQualifiedErrorId : UnexpectedToken |
| $false | At line:1 char:8 + $false -not $true + ~~~~ Unexpected token '-not' in expression or statement.  + CategoryInfo : ParserError: (:) [], ParentContainsErrorRecordException  + FullyQualifiedErrorId : UnexpectedToken |

# Deliverable

Upload this document with completed answers to i-learn.