## Preparation

Prepare a PowerShell script with extension .ps1 for each exercise in this series. Execute each script by navigating to the folder containing it. Depending on your system configuration use may need administrator privileges to do so.

## Exercise 1

Use an integer range from 1 thru 20 in your script.

a. Print all numbers from 1 thru 20.

b. Print only even numbers.

c. Print only number that are evenly divisible by five.

d. Print only numbers ending in the digit 7.

e. (Bonus) Print only prime numbers.

## Exercise 2

Simulate the German lottery „6 out of 49". In this lottery 6 elements (small plastic balls) are successively drawn from a pool of 49 balls.

a. Create a script that simulates the lottery. (We diverge from reality assuming that a ball, i.e. a number may also been drawn multiple times.)

b. (Bonus) Modify the script in a way that drawing a number multiple times is impossible.

## Exercise 3

Use Cmdlet *Test-NetConnection* with the parameter *-Port* to check whether a server accepts a connection on a given port.

Check connectivity for *localhost*, www.google.de and www.cisco.de at ports 22, 80 and 443. (Which protocols are associated with these ports?)

a. Use a list to check all hosts with a single line command.

b. (Bonus) Use two lists to execute all checks with a single command. Use may use nested ForEach-Object Cmdlets to this end.