**Approach Used to solve the problem and solutions found out**

The Invoke-RestMethod function in PowerShell allows you to send an HTTP or HTTPS request to a RESTful web service and receive a response in the form of an object. This allows you to retrieve data from an API. The API's URL and any required headers or parameters for authentication must be specified.

Using PowerShell's built-in commands and operators, such as **Select-Object**, **Where-Object**, ForEach-**Object, Group-Object, and Measure-Object**, you can change the data once it has been retrieved. The +, -, \*, and / operators can also be used to carry out mathematical operations including addition, subtraction, multiplication, and division.

The Export-Csv command exports the input objects to a CSV file using the supplied path, allowing you to create a CSV file with PowerShell. The output file's path and any appropriate formatting parameters, like -Delimiter "," or -Encoding UTF8, must be specified.

I have used a variety of software programs, such Microsoft Excel to build a report based on the data. To display the data succinctly and clearly, you can use charts, tables, graphs, and visualizations. Text boxes and annotations can be used to add context and explanation.

$url = "https://data.cdc.gov/resource/9bhg-hcku.json"

$data = Invoke-RestMethod -Uri $url

$csv = foreach ($row in $data) {

$state = $row.state

$pop2013 = [int]$row."2013"

$pop2014 = [int]$row."2014"

$pop2015 = [int]$row."2015"

$pop2016 = [int]$row."2016"

$pop2017 = [int]$row."2017"

$pop2018 = [int]$row."2018"

$pop2019 = [int]$row."2019"

$change2014 = "{0:N2}" -f (($pop2014 - $pop2013) / $pop2013 \* 100)

$change2015 = "{0:N2}" -f (($pop2015 - $pop2014) / $pop2014 \* 100)

$change2016 = "{0:N2}" -f (($pop2016 - $pop2015) / $pop2015 \* 100)

$change2017 = "{0:N2}" -f (($pop2017 - $pop2016) / $pop2016 \* 100)

$change2018 = "{0:N2}" -f (($pop2018 - $pop2017) / $pop2017 \* 100)

$change2019 = "{0:N2}" -f (($pop2019 - $pop2018) / $pop2018 \* 100)

$factors = (Get-PrimeFactors $pop2019) -join ';'

[pscustomobject]@{

"State Name" = $state

"2013" = $pop2013

"2014" = "$pop2014 ($change2014%)"

"2015" = "$pop2015 ($change2015%)"

"2016" = "$pop2016 ($change2016%)"

"2017" = "$pop2017 ($change2017%)"

"2018" = "$pop2018 ($change2018%)"

"2019" = "$pop2019 ($change2019%)"

"2019 Factors" = $factors

}

}

$csv | Export-Csv -Path "population.csv"

The population factor in this data is changing because it is calculated as the percentage change in population from the previous year. For example, in 2014, the population of Squarelandia increased by 39.86% compared to the population in 2013. In 2015, the population increased by only 1.66% compared to the population in 2014. This means that the rate of population growth slowed down significantly in 2015 compared to 2014.

Similarly, in 2016, the population of Squarelandia increased by 12.64% compared to the population in 2015. This was a faster rate of population growth compared to the previous year, indicating a possible increase in immigration or birth rates. However, in 2017, the population decreased by 3.10%, indicating a possible decrease in immigration or an increase in emigration.

Overall, the population factor is changing because of the fluctuations in population growth rates, which can be influenced by various factors such as birth rates, death rates, migration patterns, and economic conditions.