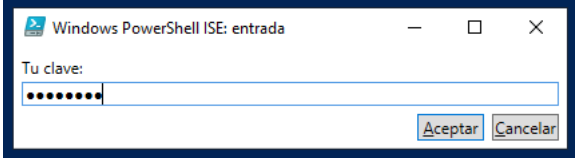
```powershell
#1 OPERACIONES BÁSICAS: SUMA, RESTA , PRODUCTO Y DIVISIÓN
        $a=34
        $b=25
        $suma= $a+$b
        $resta= $a-$b
        $producto= $a*$b
        $division= $a/$b
        write "$a + $b = $suma"
        write "$a - $b = $resta"
        write "$a * $b = $producto"
        write "$a / $b = $division"
```

```
PS C:\Users\Administrador> $a=34
$b=25
$suma= $a+$b
$resta= $a-$b
$producto= $a*$b
$division= $a/$b
write "$a + $b = $suma"
write "$a - $b = $resta"
write "$a * $b = $producto"
write "$a / $b = $division"
34 + 25 = 59
34 - 25 = 9
34 * 25 = 850
34 / 25 = 1.36

PS C:\Users\Administrador>
```

```powershell
#2 INTRODUCIR DATOS
    $nombre = Read-Host "Tu nombre: "
    $password = Read-Host -assecurestring "Tu clave: "
    #mostrar
    write-host "Hola $nombre"
    Clear-Host
    $YearCalc = Read-Host "¿cuando naciste?"
    $Now = (Get-Date -uformat "%Y") -$YearCalc
    $Maybe = $Now -1
    Write-Host "tu tienes  $Maybe o $Now años"
```

```
PS C:\Users\Administrador> $nombre = Read-Host "Tu nombre: "
$password = Read-Host -assecurestring "Tu clave: "
#mostrar
write-host "Hola $nombre"
Clear-Host
$YearCalc = Read-Host "¿cuando naciste?"
$Now = (Get-Date -uformat "%Y") -$YearCalc
$Maybe = $Now -1
Write-Host "tu tienes $Maybe o $Now años"
Tu nombre: : Jose Maria
```




```powershell
#3FUNCIÓN
        function mensaje{
         "hola desde una función"
        }
        mensaje

        function ver{
             "estas en: "
            gl
        }
    ver

    #función con parámetros
    $g=9.81
    Function altura{
         param($t)
         if($t -eq 0){
             return 0
         }else{
             return ($g*[System.Math]::Pow($t,2))/2
         }
    }
    $result=altura(6.309)
    write-host "$result"
```

```
PS C:\Users\Administrador> function mensaje{
"hola desde una función"
}
mensaje
function ver{
"estas en: "
gl
}

hola desde una función

PS C:\Users\Administrador>
```

```powershell
#4 ESTRUCTURAS DE CONTROL
        Write-Host "uso de do{}while(cond)"
        $i = 1
        do {
            Write-Host $i
            $i++
        }while ($i -le 5)

        Write-Host "uso de while(cond){}"
        $i = 1
        while ($i -le 5) {
            Write-Host $i
            $i++
        }

        Write-Host "uso de do{}until(cond)"
        $i = 1
        do {Write-Host $i; $i++}
```

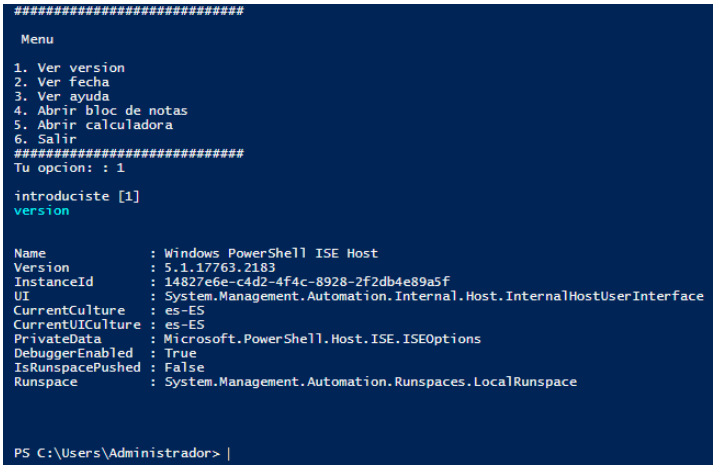
```
PS C:\Users\Administrador> Write-Host "uso de do{}while(cond)"
$i = 1
do {
Write-Host $i
$i++
}while ($i -le 5)
Write-Host "uso de while(cond){}"
$i = 1
while ($i -le 5) {
Write-Host $i
$i++
}
Write-Host "uso de do{}until(cond)"
$i = 1
do {Write-Host $i; $i++}
until ($i -gt 5)
$strResponse = "Quit"
do {$strResponse = Read-Host "Are you sure you want to quit application? (Y/N)"}
until ($strResponse -eq "Y")
Write-Host "uso de for"
for ($i=1; $i -le 5; $i++)
{Write-Host $i}
$ints = @( 1, 2, 3, 4, 5)
for ($i=0; $i -le $ints.Length - 1; $i++)
{Write-Host $ints[$i]}
Write-Host "uso de foreach"
$ints = @(1, 2, 3, 4, 5)
foreach ($i in $ints)
{Write-Host $i}
uso de do{}while(cond)
1
2
3
4
5
uso de while(cond){}
1
2
3
4
5
uso de do{}until(cond)
1
2
3
4
5
Are you sure you want to quit application? (Y/N):
```

```
        until ($i -gt 5)

        $strResponse = "Quit"
        do {$strResponse = Read-Host "Are you sure you want to quit application? (Y/N)"}
        until ($strResponse -eq "Y")


        Write-Host "uso de for"
        for ($i=1; $i -le 5; $i++)
            {Write-Host $i}

        $ints = @( 1, 2, 3, 4, 5)
        for ($i=0; $i -le $ints.Length - 1; $i++)
        {Write-Host $ints[$i]}


        Write-Host "uso de foreach"
        $ints = @(1, 2, 3, 4, 5)
        foreach ($i in $ints)
        {Write-Host $i}

#5 VECTORES
    $lista=200,250,300,350,400
    write-host "lista [$lista]"
    foreach($l in $lista){

         if($l -eq 250){
           "$l, valor encontrado"
         }else{
            $result=$l*2;
           write-host "$l   $l*2: $result"
         }
    }

    #CUENTA VOCALES
        Clear-Host
        $cadena=Read-Host "Introduce cadena"
        Write-Host "introduciste " $cadena
        $cont=0
        $aux=""
        for($i=0;$i -le $cadena.Length;$i++){
         $c=$cadena[$i]
            if($c -eq "a" -or $c -eq "e" -or $c -eq "i" -or $c -eq "o" -or $c -eq "u"){
             $cont++
             $aux+=","+$c
         }
        }
        Write-Host "no. de vocales: "$cont"  ,vocales obtenidas: "$aux

    #CALCULAR VALOR FUTURO
        clear-host
        $valor=read-host "Valor: "
        $tasa=read-host "Tasa:"
        $periodo=read-host "Periodo:"
        $resultado=0
        #mostrar valores
        write-host "valor : $valor"
        write-host "tasa : $tasa"
        write-host "periodo : $periodo"
        ""
        ""
        "[Resultado]"
        foreach ($n in 1..$periodo) {
        $resultado=[math]::pow(1+$tasa/100,$n)
        $resultado=$resultado*$valor
        write-host "$resultado  periodo --> $n"

        }
```

```
PS C:\Users\Administrador> $lista=200,250,300,350,400
write-host "lista [$lista]"
foreach($l in $lista){
if($l -eq 250){
"$l, valor encontrado"
}else{
$result=$l*2;
write-host "$l $l*2: $result"
}
}
lista [200 250 300 350 400]
200 200*2: 400
250, valor encontrado
300 300*2: 600
350 350*2: 700
400 400*2: 800

PS C:\Users\Administrador>
```

```
Introduce cadena: prueba
introduciste  prueba

no. de vocales:  3 ,vocales obtenidas: ,u,e,a

PS C:\Users\Administrador> |
```

```
PS C:\Users\Administrador> Write-Host "uso de do{}while(cond)"
$i = 1
do {
Write-Host $i
$i++
}while ($i -le 5)
Write-Host "uso de while(cond){}"
$i = 1
while ($i -le 5) {
Write-Host $i
$i++
}
Write-Host "uso de do{}until(cond)"
$i = 1
do {Write-Host $i; $i++}
until ($i -gt 5)
$strResponse = "Quit"
do {$strResponse = Read-Host "Are you sure you want to quit application? (Y/N)"}
until ($strResponse -eq "Y")
Write-Host "uso de for"
for ($i=1; $i -le 5; $i++)
{Write-Host $i}
$ints = @( 1, 2, 3, 4, 5)
for ($i=0; $i -le $ints.Length - 1; $i++)
{Write-Host $ints[$i]}
Write-Host "uso de foreach"
$ints = @(1, 2, 3, 4, 5)
foreach ($i in $ints)
{Write-Host $i}
uso de do{}while(cond)
1
2
3
4
5
uso de while(cond){}
1
2
3
4
5
uso de do{}until(cond)
1
2
3
4
5
Are you sure you want to quit application? (Y/N): |
```




```
#6 MENÚ
        clear-host
        write-host "############################"
        write-host ""
        write-host "            Menu            "
        write-host ""
        write-host "1. Ver version"
        write-host "2. Ver fecha"
        write-host "3. Ver ayuda"
        write-host "4. Abrir bloc de notas"
        write-host "5. Abrir calculadora"
        write-host "6. Salir"
        write-host "############################"
        $opc = Read-Host "Tu opcion: "
        write-host ""
        write-host "introduciste [$opc]"
        #if(opc != 0 || opc >= 6)
        if($opc -ne 0  -or $opc -ge 6){
            switch($opc){
                1 {write-host "version" -ForegroundColor Cyan
                   get-host
                }
                2 {write-host "fecha" -ForegroundColor Cyan
                   get-date
                }
                3 {write-host "ayuda" -ForegroundColor Cyan
                   get-help
                }
                4 {write-host "bloc de notas" -ForegroundColor Cyan
                    abreBloc
                }
                5 {write-host "calculadora" -ForegroundColor Cyan
                    abreCalc
                }
                6 {write-host "fin" -ForegroundColor Red
                    exit
                }
            }#fin switch
        }

#7 DATOS DEL SISTEMA
    write-host "Datos del sistema:"
    New-Object System.io.DriveInfo "C:" | Format-List *
    $drive = New-Object System.io.DriveInfo "C:"
    $drive.DriveFormat
    $drive.VolumeLabel

    #UBICACIÓN
    $variable=gl
    "estas en: "
    $variable

    #FECHA
    $fecha=Get-Date
    write-host "hoy es "$fecha


    #IMPRESORAS
    write-host
    write-host "ShowPrnH.ps1,  Version 1.01"
    write-host "Show available printers in HTML"
    write-host "Written by Rob van der Woude"
    write-host "http://www.robvanderwoude.com"
    write-host

    get-wmiobject -class Win32_Printer | convertto-html
Name,Default,Network,PortName,DriverName,ServerName,ShareName -head "<title>All printers
available on $env:computername</title>`n<style type=`"text/css`">`nbody { padding: 8px;
line-height: 1.33 }`ntable { border-style: ridge }`ntd, th { padding: 10px; border-style:
```

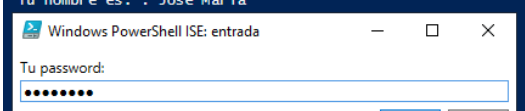
```
dotted; border-width: 1px }`nth { font-weight: bolder; text-align: center }`n</style>" |
out-file -FilePath "showprnh.html" -Encoding "ASCII"
    invoke-item "showprnh.html"

    #ARCHIVOS y guardarla en un archivo de texto *.txt

    gci > listaArchivos.txt

    #mostrar el nombre de los ARCHIVOS y el tamaño ordenados por tamaño
    gci |select name,length |sort length –desc


    #Cómo mostrar el nombre de los ARCHIVOS y el tamaño cuyo tamaño sea 79 bytes en
powershell ?

    gci |select name,length | where {$_.length -eq 76}


#8 ARCHIVOS txt
        Clear-Host
        $Path = "C:\Program Files\"
        Get-Childitem $Path -recurse -force | Foreach {
                        If ($_.extension -eq ".txt") {
                                        Write-Host $_.fullname
                        }
        }

        $strResponse = “salir”
        do {$strResponse = Read-Host “Quiere salir de la aplicación? (Y/N)”}
        until ($strResponse -eq “Y”)

        New-Item -Type f freespace.txt

        $date = ( get-
date ).ToString('yyyyMMdd')
        $file = New-Item -type file "$date-
freespace.txt"
        $date = ( get-date ).ToString('yyyyMMdd')

        ForEach ($system in Get-Content "servicio.txt")
        {Write-Host
$system}


    #ATRIBUTOS DE ARCHIVOS
    $Path = "C:\Program Files\"
    "{0,10} {1,-24} {2,-2}" -f `
    " Size", "Last Accessed", "File Name "
    Foreach ($file in Get-Childitem $Path -recurse -force)
    {If ($file.extension -eq ".txt")
        {
        "{0,10} {1,-24} {2,-2}" -f `
        $file.length, $file.LastAccessTime, $file.fullname
        }
    }

    # CONTENIDO DE ARCHIVOS
    clear
    Get-Content C:\servicio.txt

    $a = Get-Content C:\Users\fernando\Documents\Ejemplos\servicio.txt
    write-host "$a"

    (Get-Content C:\Users\fernando\Documents\Ejemplos\servicio.txt)[0 .. 2]

    $arch=get-content C:\Users\fernando\Documents\Ejemplos\servicio.txt
    ForEach-Object {Write-Host $arch -foregroundcolor red}

    foreach ($number in 1..10 ) { $number * 4}
```

```
Quiere salir de la aplicación? (Y/N): y


    Directorio: C:\Users\Administrador


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----        05/12/2021     20:37              0 freespace.txt
```

```
4
8
12
16
20
24
28
32
36
40
```

```powershell
#9 ARCHIVOS Y MENÚ Y FUNCIONES
        clear
        get-host
        $cadena="pelo"
        $archivo="C:\Users\fernando\Documents\Ejemplos\servicio.txt"
        $fecha=(get-date)
        $fecha
        $nombre = Read-Host "Tu nombre es: "
        $password = Read-Host -assecurestring "Tu password: "
        write-host "Bienvenido $nombre"
        "Te encuentras en:"
        gl
        "usuario:"
        whoami
        $cad=$cadena-replace("l","rr")
        $cad
        "contenido del archivo:"
        get-content $archivo
        $compara=whoami
        if($nombre -eq $compara){"iguales"}else{"no iguales"}
        function abre{
            param($nombre)
             if($nombre -eq "fernando"){"start notepad"}else{"start calc, nada igual"}
        }

        #invocar a la función
        abre($nombre)

        $numero= read-host "número: "
        switch($numero){
             1 {" abre"}
             2 {" cierra"}
             3 {" apaga"}
             default {"inactivo"}
        }

        try{
         "abriendo archivo, se ejecuto esto"
            abre($nombre)
        }catch{
         "no se encuentra  el archivo"
        }
```

```
Name             : Windows PowerShell ISE Host
Version          : 5.1.17763.2183
InstanceId       : 14827e6e-c4d2-4f4c-8928-2f2db4e89a5f
UI               : System.Management.Automation.Internal.Host.InternalHostUserInterface
CurrentCulture   : es-ES
CurrentUICulture : es-ES
PrivateData      : Microsoft.PowerShell.Host.ISE.ISEOptions
DebuggerEnabled  : True
IsRunspacePushed : False
Runspace         : System.Management.Automation.Runspaces.LocalRunspace

DisplayHint : DateTime
Date        : 05/12/2021 0:00:00
Day         : 5
DayOfWeek   : Sunday
DayOfYear   : 339
Hour        : 20
Kind        : Local
Millisecond : 699
Minute      : 41
Month       : 12
Second      : 25
Ticks       : 637743336856990451
TimeOfDay   : 20:41:25.6990451
Year        : 2021
DateTime    : domingo, 5 de diciembre de 2021 20:41:25

Tu nombre es: : Jose Maria
```




```powershell
#10 PROCESOS
    $ubicacion=gl
    Write-Host "te encuentras en:" $ubicacion
    Get-Help -Name Get-Process

    #PROCESOS Y SERVICIOS
    ##############################################################################3
    #Get-Process | ForEach-Object {Write-Host $_.name -foregroundcolor cyan}
    #write-host "Algo"
    ###########################################
    #$a = (get-date).day
    #$a = (get-date).dayofweek
    #$a = (get-date).dayofyear
    #$a = (get-date).hour
    #$a = (get-date).millisecond
    #$a = (get-date).minute
    #$a = (get-date).month
    #$a = (get-date).second
    #$a = (get-date).timeofday
    #$a = (get-date).year
    #get-date -DisplayHint date
    #$now=Get-Date -format "dd-MMM-yyyy HH:mm"
    #get-date -format g
    #(get-date).dayofyear
    #$a = get-wmiobject win32_bios -computer SERVER64
```

```
    #$a | format-list -property Name, @{Label="BIOS Date "; `
    #Expression={$_.ConvertToDateTime($_.ReleaseDate)}}
    ########################################################
    #dir <enter>
    #ls <enter>
    #gci <enter>
    Get-ChildItem <enter>
    #asignar un alias
    Set-Alias gs Get-Service <enter>
    #exportar contenido a un txt
    Export-Alias -Path Aliases.txt <enter>


    #INICIAR PROCESO CON FUNCIONES
    Function abreBloc{
      start notepad
    }

    Function abreCalc{
      start calc
    }

    #EMULAR EL COMANDO TOP DE LINUX
    while (1) { ps | sort -desc cpu | select -first 30; sleep -seconds 2; cls }

    #ENVIAR CORREO
    $filename = "c:\scripts_scott\test9999.xls"
    $smtpserver = "smtp.gmail.com"
    $msg = new-object Net.Mail.MailMessage
    $att = new-object Net.Mail.Attachment($filename)
    $smtp = new-object Net.Mail.SmtpClient($smtpServer )
    $smtp.EnableSsl = $True
    $smtp.Credentials = New-Object System.Net.NetworkCredential("username",
"password_here"); # Put username without the @GMAIL.com or – @gmail.com
    $msg.From = "username@gmail.com"
    $msg.To.Add("boss@job.com")
    $msg.Subject = "Monthly Report"
    $msg.Body = "Good Morning, Last month's LOGINS & GROUPCALLS FOR ALL GIDS IN SYSTEM IS
ATTACHED"
    $msg.Attachments.Add($att)
    $smtp.Send($msg)
```