JarvisBot Assignment

My program starts with some welcome messages to welcome the User.

In the first line you will find out some definitions I make for some colors I use.

After that the function startMenu() displays the Initial Menu which contains 6 cases:

1. Status
2. Who
3. Update
4. Service
5. Storage
6. Exit

For every cases the user interact with, I use a different function

1. getStatus(): Displaying the Initial menu and going through the Status menu case.
2. whoIsWho(): Displaying the Initial menu and going through the Who menu case.
3. doINeedUpdate(): Displaying the Initials menu and exec the Update Functions.
    a. UpdateAll():Exec if the user wants to Install all the packages available.
    b. checkOsVersion(): Exec when the user wants to update the OS version.
4. getServiceStatus(): Displaying the Initial menu and going through the Service case.
5. getStorage():Displaying the Initial menu and going through the Storage case.

In every function I use an internal menu for better user experience.

What ever the user chooses to display I use a switch statement to print the results with the corresponding command.

Commands I Use in my code:

Command	**Comments**
Printf	To display in the command line
Date +"%Y-%m-%d, %H:%M:%s"	Display date and time in this format
awk '{print $1 ", "$2 ", " $3}' /proc/loadavg)	Displaying the 3 first columns of the /proc/loadavg for load average
100-$(vmstat 1 2|tail -1|awk '{print $15}')	Cpu utilization is 100-idle_time so we take it from vmstat and we get the $15 column
free | grep Mem | awk '{print $3/$2 * 100}'	Display the % of memory use dividing the third by second column and multiplying by 100
vnstat	Network bandwidth
df -hl |grep '/sda' |awk '{print $1":"$5}'	Displaying the disk usage
sudo apt upgrade	Installing the new versions

apt list --upgradable	Displaying the available updates for the packages
sudo update-manager –devel-release	Runs the os-updater to download and install the newer OS version
uname -srv	Showing the current Kernel Information
who	Displays the user
w | awk '{print $1 " " $4 " " $8}'	How many are loges in the same user account
lsblk -fs -o NAME,MOUNTPOINTS	list with all disk part and mount points , showing with specific order the columns
cat /etc/fstab	unmounted entries from the fstab
lsblk -fs -o NAME,UUID	Show UUID of the partitions
lsblk -fs -o NAME,FSUSE%	Space you are using
if systemctl list-units --type=service --all | grep -q "$serviceName"	checking if the service exists.
service $serviceName status | grep 'Active'	checking the status of the service
service $serviceName start	Starts the service
service $serviceName stop	Stops the service
service $serviceName restart	Restarts the service