PROJECT: OS mini project : System Report
Generator (bash script)
Name: Ritika Rajpal
Sandeep Sahani
Class: D12A
CODE:

```bash
#!/bin/bash

#configuration
#set path for dir to create and update index.html and style.css
#use proper path ending with /

path=/home/sylveryte/public_html/report/

#code init file checkings
_index=index.html
_style=style.css
indexfile=$path$_index
stylefile=$path$_style

#CSS CODE HANDLE
#if css exists and has code
if [ -s "$stylefile" ]; then
        author=sylveryte
else
        touch $stylefile
        tee $stylefile << _EOFC_
body{
  background-color: black;
}
.body{
  background-color: #282828;
  color: white;
  margin: 0% 15%;
  padding: 5px 30px;
  border-radius: 5px;
}
h1,h2,h3{
  background-color:grey;
  border-radius: 10px;
  padding: 10px;
}
.container{
  background-color:#323232;
  padding:25px;
  border-radius: 5px;
  margin: 10px;
}
article,pre{
  color: #d3d3d3;
  padding-left: 20px;
  /*background-color: #484848;*/
  background-color: #282828;
  margin: 5px 0px 0px 15px;
  padding: 20px;
  border-radius: 10px;
}
.pback{
  background-color: #447f61;
  border-radius: 5px;
}
.pfore{
  background-color: #874343;
  padding: 2px;
  border-radius: 5px;
}
_EOFC_
fi

#code

title="System Report of <strong>$HOSTNAME</strong>"
current_time=$(date +"%x %r %Z")
timestamp="Generated on <strong>$current_time</strong> by
<strong>$USER</strong>"

report_uptime(){
        cat <<- _EOF_
        <h3>
        Uptime
        </h3>
        <pre>
        $(uptime)
        </pre>
        _EOF_
        return
}

report_ram_space(){
        echo "<h3>Memory Info</h3><article>"


        total=$(free | grep -i mem | awk '{print $2}')
        used=$(free | grep -i mem | awk '{print $3}')
        per=$((100*$used/$total))%


        while read line; do
                echo "<div style=\"padding:7px 0px\">"
                echo "<strong>"
                echo  $line | awk '{print $1}'
                echo "</strong><br>total<strong>:"
                echo  $line | awk '{print $2}'
                echo "</strong><br>available<strong>:"
                echo  $line | awk '{print $4}'
                echo "</strong><br>used<strong>:"
                echo  $line | awk '{print $3}'
                echo "</strong><div style=\"margin:10px 3px\"><div
class=\"pback\"><div class=\"pfore\" style=\"width:
$per\">$per</div></div></div>"
                echo "</div>"
        done < <(free -h | grep -i mem)
        echo "</article>"
}


report_disk_space(){
        echo "<h3>Disk Size Info</h3><article>"
        #read output of df -h line by line
        while read line; do
                echo "<div style=\"padding:7px 0px\">"
                echo "<strong>"
                echo  $line | awk '{print $1}'
                echo "</strong><br>size<strong>:"
                echo  $line | awk '{print $2}'
```

```bash
                    echo "</strong><br>available<strong>:"
                    echo  $line | awk '{print $4}'
                    echo "</strong><br>used<strong>:"
                    echo  $line | awk '{print $3}'
                    echo "</strong><div style=\"margin:10px 3px\"><div
class=\"pback\"><div class=\"pfore\" style=\"width:"
                    echo  $line | awk '{print $5}'
                    echo "\">"
                    echo  $line | awk '{print $5}'
                    echo "</div></div></div>"
                    echo "</div>"
            done < <(df -h | grep -vi filesystem)
            echo "</article>"
}

report_usb(){
            cat <<- _EOF_
            <h2>
            Connected USB devices
            </h2>

            <pre>
            $(lsusb)
            </pre>
            _EOF_
            return
}
report_pci(){
            echo "<h2>PCI devices</h2>
            <h4>
            Block Devices
            </h4><pre>"
                        while read line; do
                                if [[ $line == b* ]]; then
                                        echo $line
                                fi
            done < <(ls -l /dev | grep -vi total )
            echo "</pre>
            <h4>
            Character Devices
            </h4><pre>"
            while read line; do
                                if [[ $line == c* ]]; then
                                        echo $line
                                fi
            done < <(ls -l /dev | grep -vi total )
            echo "</pre>"
            return
}
report_users(){
            cat <<- _EOF_
            <h2>
            User login Activities
            </h2>

            <pre>
            $(last -a | head )
            </pre>
            _EOF_
            return
}




tee $indexfile <<- _EOF_
<html>
            <head>
                        <title>$title</title>
                        <link rel="stylesheet" type="text/css" href="style.css">
            </head>
<body>
<div class="body">
            <h1>$title</h1>
            <div class="container">$timestamp</div>
            <div class="container">
            $(report_uptime)
            $(report_users)
            $(report_ram_space)
            $(report_usb)
            $(report_disk_space)
            $(report_pci)
            </div>
</div>
</body>
</html>
_EOF_
```
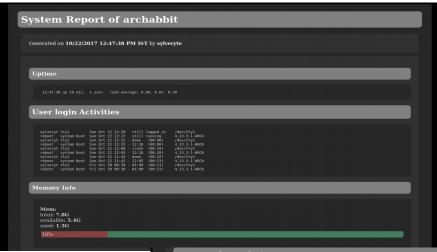
index.html

```
<html>
<head>
<title>System Report of <strong>archabbit</strong></title>
<link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
<div class="body">
<h1>System Report of <strong>archabbit</strong></h1>
<div class="container">Generated on <strong>10/22/2017 12:47:38 PM
IST</strong> by <strong>sylveryte</strong></div>
<div class="container">
<h3>
Uptime
</h3>
<pre>
 12:47:38 up 19 min,  1 user,  load average: 0.89, 0.87, 0.70
</pre>
<h2>
User login Activities
</h2>

<pre>
sylveryt tty1        Sun Oct 22 12:28   still logged in   /dev/tty1
.
.
.
reboot   system boot  Fri Oct 20 00:38 - 01:00  (00:21)    4.13.3-1-ARCH
</pre>
<h3>Memory Info</h3><article>
<div style="padding:7px 0px">
<strong>
Mem:
</strong><br>total<strong>:
7.8G
</strong><br>available<strong>:
5.4G
</strong><br>used<strong>:
1.5G
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:18%">18%</div></div></div>
</div>
</article>
<h2>
Connected USB devices
</h2>

<pre>
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 004: ID 0bda:b006 Realtek Semiconductor Corp.
Bus 001 Device 003: ID 04f2:b50d Chicony Electronics Co., Ltd
Bus 001 Device 005: ID 3938:1031
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
</pre>
<h3>Disk Size Info</h3><article>
<div style="padding:7px 0px">
<strong>
dev
</strong><br>size<strong>:
3.9G
</strong><br>available<strong>:
3.9G
</strong><br>used<strong>:
0
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
0%
">
```

```
0%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
run
</strong><br>size<strong>:
3.9G
</strong><br>available<strong>:
3.9G
</strong><br>used<strong>:
1.3M
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
1%
">
1%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
/dev/sda5
</strong><br>size<strong>:
79G
</strong><br>available<strong>:
62G
</strong><br>used<strong>:
13G
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
18%
">
18%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
tmpfs
</strong><br>size<strong>:
3.9G
</strong><br>available<strong>:
3.9G
</strong><br>used<strong>:
51M
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
2%
">
2%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
tmpfs
</strong><br>size<strong>:
3.9G
</strong><br>available<strong>:
3.9G
</strong><br>used<strong>:
0
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
0%
">
0%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
tmpfs
```

```
</strong><br>size<strong>:
3.9G
</strong><br>available<strong>:
3.9G
</strong><br>used<strong>:
632K
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
1%
">
1%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
/dev/sda7
</strong><br>size<strong>:
210G
</strong><br>available<strong>:
186G
</strong><br>used<strong>:
14G
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
7%">7%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
/dev/sda8
</strong><br>size<strong>:
232G
</strong><br>available<strong>:
220G
</strong><br>used<strong>:
61M
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
1%">1%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
/dev/sda6
</strong><br>size<strong>:
477M
</strong><br>available<strong>:
398M
</strong><br>used<strong>:
50M
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
12%">12%
</div></div></div>
</div>
<div style="padding:7px 0px">
<strong>
tmpfs
</strong><br>size<strong>:
799M
</strong><br>available<strong>:
794M
</strong><br>used<strong>:
4.6M
</strong><div style="margin:10px 3px"><div class="pback"><div
class="pfore" style="width:
1%
">
1%
</div></div></div>
```

```
</div>
</article>
<h2>PCI devices</h2>
          <h4>
          Block Devices
          </h4><pre>
brw-rw---- 1 root disk 8, 0 Oct 22 12:27 sda
.
.
.
brw-rw----+ 1 root optical 11, 0 Oct 22 12:27 sr0
</pre>
</pre>
          <h4>
          Character Devices
          </h4><pre>
crw------- 1 root root 10, 58 Oct 22 12:27 acpi_thermal_rel
crw------- 1 root root 10, 235 Oct 22 12:27 autofs
.
.
.
.
crw--w---- 1 root tty 4, 18 Oct 22 12:27 tty18
crw--w---- 1 root tty 4, 19 Oct 22 12:27 tty19
crw--w---- 1 root tty 4, 2 Oct 22 12:27 tty2
crw-rw-rw- 1 root root 1, 5 Oct 22 12:27 zero
</pre>
</div>
</div>
</body>
</html>
```

style.css

```css
body{
  background-color: black;
}
.body{
  background-color: #282828;
  color: white;
  margin: 0% 15%;
  padding: 5px 30px;
  border-radius: 5px;
}
h1,h2,h3{
  background-color:grey;
  border-radius: 10px;
  padding: 10px;
}
.container{
  background-color:#323232;
  padding:25px;
  border-radius: 5px;
  margin: 10px;
}
article,pre{
  color: #d3d3d3;
  padding-left: 20px;
  /*background-color: #484848;*/
  background-color: #282828;
  margin: 5px 0px 0px 15px;
  padding: 20px;
  border-radius: 10px;
}
.pback{
  background-color: #447f61;
  border-radius: 5px;
}
.pfore{
  background-color: #874343;
  padding: 2px;
  border-radius: 5px;
}
```

OUTPUT(OF OUTPUT):

System Report of archabbit

Generated on **10/22/2017 12:47:38 PM IST** by **sylveryte**

Uptime

```
12:47:38 up 19 min,  1 user,  load average: 0.89, 0.87, 0.70
```

User login Activities

```
sylveryt tty1           Sun Oct 22 12:28   still logged in   /dev/tty1
reboot   system boot  Sun Oct 22 12:27   still running      4.13.3-1-ARCH
sylveryt tty1           Sun Oct 22 12:25 - down   (00:00)    /dev/tty1
reboot   system boot  Sun Oct 22 12:25 - 12:26  (00:00)     4.13.3-1-ARCH
sylveryt tty1           Sun Oct 22 12:06 - crash  (00:19)    /dev/tty1
reboot   system boot  Sun Oct 22 12:05 - 12:26  (00:20)     4.13.3-1-ARCH
sylveryt tty1           Sun Oct 22 11:42 - down   (00:22)    /dev/tty1
reboot   system boot  Sun Oct 22 11:42 - 12:05  (00:23)     4.13.3-1-ARCH
sylveryt tty1           Fri Oct 20 00:39 - 01:00  (00:21)    /dev/tty1
reboot   system boot  Fri Oct 20 00:38 - 01:00  (00:21)     4.13.3-1-ARCH
```

Memory Info

Mem:
total: **7.8G**
available: **5.4G**
used: **1.5G**

`18%`

Connected USB devices

```
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 004: ID 0bda:b006 Realtek Semiconductor Corp.
Bus 001 Device 003: ID 04f2:b50d Chicony Electronics Co., Ltd
Bus 001 Device 005: ID 3938:1031
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
```

Disk Size Info

dev
size: **3.9G**
available: **3.9G**
used: **0**

`0%`

run
size: **3.9G**
available: **3.9G**
used: **1.3M**

`1%`

/dev/sda5
size: **79G**
available: **62G**
used: **13G**

`18%`

tmpfs
size: **3.9G**
available: **3.9G**
used: **51M**

`2%`

tmpfs
size: **3.9G**
available: **3.9G**
used: **0**

PCI devices

Block Devices

```
brw-rw---- 1 root disk 8, 0 Oct 22 12:27 sda
brw-rw---- 1 root disk 8, 1 Oct 22 12:27 sda1
brw-rw---- 1 root disk 8, 2 Oct 22 12:27 sda2
brw-rw---- 1 root disk 8, 3 Oct 22 12:27 sda3
brw-rw---- 1 root disk 8, 4 Oct 22 12:27 sda4
brw-rw---- 1 root disk 8, 5 Oct 22 12:27 sda5
brw-rw---- 1 root disk 8, 6 Oct 22 12:28 sda6
brw-rw---- 1 root disk 8, 7 Oct 22 12:27 sda7
brw-rw---- 1 root disk 8, 8 Oct 22 12:28 sda8
brw-rw----+ 1 root optical 11, 0 Oct 22 12:27 sr0
```

Character Devices

```
crw------- 1 root root 10, 58 Oct 22 12:27 acpi_thermal_rel
crw------- 1 root root 10, 235 Oct 22 12:27 autofs
crw------- 1 root root 10, 234 Oct 22 12:27 btrfs-control
crw------- 1 root root 5, 1 Oct 22 12:28 console
crw------- 1 root root 10, 62 Oct 22 12:27 cpu_dma_latency
crw------- 1 root root 10, 203 Oct 22 12:27 cuse
crw------- 1 root root 246, 0 Oct 22 12:27 drm_dp_aux0
crw------- 1 root video 29, 0 Oct 22 12:27 fb0
crw------- 1 root root 10, 56 Oct 22 12:27 freefall
crw-rw-rw- 1 root root 1, 7 Oct 22 12:27 full
crw-rw-rw- 1 root root 10, 229 Oct 22 12:28 fuse
crw------- 1 root root 248, 0 Oct 22 12:44 hidraw0
crw------- 1 root audio 10, 228 Oct 22 12:27 hpet
crw-r--r-- 1 root root 1, 11 Oct 22 12:27 kmsg
crw-rw----+ 1 root kvm 10, 232 Oct 22 12:27 kvm
crw-rw---- 1 root disk 10, 237 Oct 22 12:27 loop-control
crw------- 1 root video 245, 0 Oct 22 12:27 media0
crw------- 1 root root 247, 0 Oct 22 12:27 mei0
crw-r----- 1 root kmem 1, 1 Oct 22 12:27 mem
crw------- 1 root root 10, 59 Oct 22 12:27 memory_bandwidth
crw------- 1 root root 10, 61 Oct 22 12:27 network_latency
crw------- 1 root root 10, 60 Oct 22 12:27 network_throughput
crw-rw-rw- 1 root root 1, 3 Oct 22 12:27 null
crw-r----- 1 root kmem 1, 4 Oct 22 12:27 port
crw------- 1 root root 108, 0 Oct 22 12:27 ppp
crw------- 1 root root 10, 1 Oct 22 12:25 psaux
crw-rw-rw- 1 root tty 5, 2 Oct 22 12:47 ptmx
crw-rw-rw- 1 root root 1, 8 Oct 22 12:27 random
crw-r--r--+ 1 root root 10, 57 Oct 22 12:27 rfkill
crw------- 1 root audio 251, 0 Oct 22 12:27 rtc0
crw-rw---- 1 root disk 21, 0 Oct 22 12:27 sg0
crw-rw----+ 1 root optical 21, 1 Oct 22 12:27 sg1
```