

Lab 9

Question 1: Working with saving commands output to a file

```
1/1 + ⌂ ⌂ Tiliix: aayushmas@Linux: ~/cis106/labs/lab9
1: aayushmas@Linux: ~/cis106/labs/lab9 ~
aayushmas@Linux:~$ cd cis106/labs/lab9/
aayushmas@Linux:~/cis106/labs/lab9$ echo "All files in my home directory" > file_report.txt
aayushmas@Linux:~/cis106/labs/lab9$ ls -Am ~ >> file_report.txt
aayushmas@Linux:~/cis106/labs/lab9$ cat file_report.txt
All files in my home directory
.aaayushma, access.log, .bash_aliases, .bash_history, .bash_logout, .bashrc,
.cache, cis106, colors, .config, Desktop, Documents, .dotnet, Downloads,
essentials.sh, .face, .face.icon, .fonts, gaurav.txt, .gitconfig, .gnupg,
inClassActivity, lab5files, lab6-challenge1, lab6-challenge2, .local,
marstenHouse, marstenhouse.sh, .mozilla, Music, notes9, Pictures, .pki,
portfolio, practice1s, practice1s.tar.xz, .profile, Public, Scripts, .shutter,
snap, snapshots, sorted_access_log_by_endpoint.log,
sorted_access_log_by_uname.log, .ssh, .sudo_as_admin_successful, Templates,
.vboxclient-clipboard-tty2-control.pid, .vboxclient-clipboard-tty2-service.pid,
.vboxclient-draganddrop-tty2-control.pid,
.vboxclient-hostversion-tty2-control.pid, .vboxclient-seamless-tty2-control.pid,
.vboxclient-vmsvga-session-tty2-control.pid,
.vboxclient-vmsvga-session-tty2-service.pid, Videos, .viminfo, .vscode,
vscode.sh, wallpapers, wallpapers_others, website, .wget-hsts,
wildcards-in-class-activity-instructions.html
aayushmas@Linux:~/cis106/labs/lab9$
```

Question 2: Working with the | (pipe)

```
1/1 + ⌂ ⌂ Tiliix: aayushmas@Linux: ~/cis106/labs/lab9
1: aayushmas@Linux: ~/cis106/labs/lab9 ~
aayushmas@Linux:~/cis106/labs/lab9$ echo "Total number of files in my home directory" >> file_report.txt
aayushmas@Linux:~/cis106/labs/lab9$ ls -la ~ | grep "^-" | wc -l
27
aayushmas@Linux:~/cis106/labs/lab9$ ls -la ~ | grep "^-" | wc -l >> file_report.txt
aayushmas@Linux:~/cis106/labs/lab9$ echo "Total number of directories in my home directory" >> file_report.txt

aayushmas@Linux:~/cis106/labs/lab9$ ls -la ~ | grep "^d" | wc -l >> file_report.txt
aayushmas@Linux:~/cis106/labs/lab9$ tail file_report.txt
.vboxclient-hostversion-tty2-control.pid, .vboxclient-seamless-tty2-control.pid,
.vboxclient-vmsvga-session-tty2-control.pid,
.vboxclient-vmsvga-session-tty2-service.pid, Videos, .viminfo, .vscode,
vscode.sh, wallpapers, wallpapers_others, website, .wget-hsts,
wildcards-in-class-activity-instructions.html
Total number of files in my home directory
Total number of files in my home directory
27
Total number of directories in my home directory
35
aayushmas@Linux:~/cis106/labs/lab9$
```

Question 3: Awk and Sed

- Q.1

```
1/1 + ⌂ ⌂ Tilix: aayushmas@Linux: ~/cis106/labs/lab9
1: aayushmas@Linux: ~/cis106/labs/lab9
aayushmas@Linux:~/cis106/labs/lab9$ awk -F ":" '{print $1, $NF}' /etc/passwd
root /bin/bash
daemon /usr/sbin/nologin
bin /usr/sbin/nologin
sys /usr/sbin/nologin
sync /bin/sync
games /usr/sbin/nologin
man /usr/sbin/nologin
lp /usr/sbin/nologin
mail /usr/sbin/nologin
news /usr/sbin/nologin
uucp /usr/sbin/nologin
proxy /usr/sbin/nologin
www-data /usr/sbin/nologin
backup /usr/sbin/nologin
list /usr/sbin/nologin
irc /usr/sbin/nologin
_apt /usr/sbin/nologin
nobody /usr/sbin/nologin
systemd-network /usr/sbin/nologin
dhcpcd /bin/false
tss /bin/false
systemd-timesync /usr/sbin/nologin
messagebus /usr/sbin/nologin
dnsmasq /usr/sbin/nologin
avahi /usr/sbin/nologin
speech-dispatcher /bin/false
usbmux /usr/sbin/nologin
cups-pk-helper /usr/sbin/nologin
fwupd-refresh /usr/sbin/nologin
geoclue /usr/sbin/nologin
gnome-remote-desktop /usr/sbin/nologin
saned /usr/sbin/nologin
polkitd /usr/sbin/nologin
rtkit /usr/sbin/nologin
colord /usr/sbin/nologin
Debian-gdm /bin/false
aayushmas /bin/bash
_flatpak /usr/sbin/nologin
vboxadd /bin/false
aayushmas@Linux:~/cis106/labs/lab9$
```

- Q.2

The screenshot shows a terminal window titled "Tilix: aayushmas@Linux: ~/cis106/labs/lab9". The terminal displays the output of the command "awk -F ":" '{print \$1, \$NF, \$6}' /etc/passwd". The output lists various user accounts and their details. The user "aayushmas" is listed at the bottom.

```
aayushmas@Linux:~/cis106/labs/lab9$ awk -F ":" '{print $1, $NF, $6}' /etc/passwd
root /bin/bash /root
daemon /usr/sbin/nologin /usr/sbin
bin /usr/sbin/nologin /bin
sys /usr/sbin/nologin /dev
sync /bin/sync /bin
games /usr/sbin/nologin /usr/games
man /usr/sbin/nologin /var/cache/man
lp /usr/sbin/nologin /var/spool/lpd
mail /usr/sbin/nologin /var/mail
news /usr/sbin/nologin /var/spool/news
uucp /usr/sbin/nologin /var/spool/uucp
proxy /usr/sbin/nologin /bin
www-data /usr/sbin/nologin /var/www
backup /usr/sbin/nologin /var/backups
list /usr/sbin/nologin /var/list
irc /usr/sbin/nologin /run/ircd
_apt /usr/sbin/nologin /nonexistent
nobody /usr/sbin/nologin /nonexistent
systemd-network /usr/sbin/nologin /
dhpcd /bin/false /usr/lib/dhpcd
tss /bin/false /var/lib/tpm
systemd-timesync /usr/sbin/nologin /
messagebus /usr/sbin/nologin /nonexistent
dnsmasq /usr/sbin/nologin /var/lib/misc
avahi /usr/sbin/nologin /run/avahi-daemon
speech-dispatcher /bin/false /run/speech-dispatcher
usbmux /usr/sbin/nologin /var/lib/usbmux
cups-pk-helper /usr/sbin/nologin /nonexistent
fwupd-refresh /usr/sbin/nologin /var/lib/fwupd
geoclue /usr/sbin/nologin /var/lib/geoclue
gnome-remote-desktop /usr/sbin/nologin /var/lib/gnome-remote-desktop
saned /usr/sbin/nologin /var/lib/saned
polkitd /usr/sbin/nologin /
rtkit /usr/sbin/nologin /proc
colord /usr/sbin/nologin /var/lib/colord
Debian-gdm /bin/false /var/lib/gdm3
aayushmas /bin/bash /home/aayushmas
_flatpak /usr/sbin/nologin /nonexistent
vboxadd /bin/false /var/run/vboxadd
aayushmas@Linux:~/cis106/labs/lab9$
```

- Q.3

```

1:aayushmas@Linux:~/cis106/labs/lab9$ awk -F ":" '{print "The user: " $1, "logs in with: " $NF, "and its home dir is: " $6}' /etc/passwd
The user: root logs in with: /bin/bash and its home dir is: /root
The user: daemon logs in with: /usr/sbin/nologin and its home dir is: /usr/sbin
The user: bin logs in with: /usr/sbin/nologin and its home dir is: /bin
The user: sys logs in with: /usr/sbin/nologin and its home dir is: /dev
The user: sync logs in with: /bin/sync and its home dir is: /bin
The user: games logs in with: /usr/sbin/nologin and its home dir is: /usr/games
The user: man logs in with: /usr/sbin/nologin and its home dir is: /var/cache/man
The user: lp logs in with: /usr/sbin/nologin and its home dir is: /var/spool/lpd
The user: mail logs in with: /usr/sbin/nologin and its home dir is: /var/mail
The user: news logs in with: /usr/sbin/nologin and its home dir is: /var/spool/news
The user: uucp logs in with: /usr/sbin/nologin and its home dir is: /var/spool/uucp
The user: proxy logs in with: /usr/sbin/nologin and its home dir is: /bin
The user: www-data logs in with: /usr/sbin/nologin and its home dir is: /var/www
The user: backup logs in with: /usr/sbin/nologin and its home dir is: /var/backups
The user: list logs in with: /usr/sbin/nologin and its home dir is: /var/list
The user: irc logs in with: /usr/sbin/nologin and its home dir is: /run/ircd
The user: _apt logs in with: /usr/sbin/nologin and its home dir is: /nonexistent
The user: nobody logs in with: /usr/sbin/nologin and its home dir is: /nonexistent
The user: systemd-network logs in with: /usr/sbin/nologin and its home dir is: /
The user: dhcpcd logs in with: /bin/false and its home dir is: /usr/lib/dhcpcd
The user: tss logs in with: /bin/false and its home dir is: /var/lib/tpm
The user: systemd-timesync logs in with: /usr/sbin/nologin and its home dir is: /
The user: messagebus logs in with: /usr/sbin/nologin and its home dir is: /nonexistent
The user: dnsmasq logs in with: /usr/sbin/nologin and its home dir is: /var/lib/misc
The user: avahi logs in with: /usr/sbin/nologin and its home dir is: /run/avahi-daemon
The user: speech-dispatcher logs in with: /bin/false and its home dir is: /run/speech-dispatcher
The user: usbmux logs in with: /usr/sbin/nologin and its home dir is: /var/lib/usbmux
The user: cups-pk-helper logs in with: /usr/sbin/nologin and its home dir is: /nonexistent
The user: fwupd-refresh logs in with: /usr/sbin/nologin and its home dir is: /var/lib/fwupd
The user: geoclue logs in with: /usr/sbin/nologin and its home dir is: /var/lib/geoclue
The user: gnome-remote-desktop logs in with: /usr/sbin/nologin and its home dir is: /var/lib/gnome-remote-desktop
The user: saned logs in with: /usr/sbin/nologin and its home dir is: /var/lib/saned
The user: polkitd logs in with: /usr/sbin/nologin and its home dir is: /
The user: rtkit logs in with: /usr/sbin/nologin and its home dir is: /proc
The user: colord logs in with: /usr/sbin/nologin and its home dir is: /var/lib/colord
The user: Debian-gdm logs in with: /bin/false and its home dir is: /var/lib/gdm3
The user: aayushmas logs in with: /bin/bash and its home dir is: /home/aayushmas
The user: _flatpak logs in with: /usr/sbin/nologin and its home dir is: /nonexistent
The user: vboxadd logs in with: /bin/false and its home dir is: /var/run/vboxadd
aayushmas@Linux:~/cis106/labs/lab9$ 
```

- Q.4,5

```

1:aayushmas@Linux:~/cis106/labs/lab9$ awk -F ":" '{print "The user: " $1, "logs in with: " $NF, "and its home dir is: " $6}' /etc/passwd > report_users.txt
aayushmas@Linux:~/cis106/labs/lab9$ awk -F ":" '{print "The user: " $1, "logs in with: " $NF, "and its home dir is: " $6}' /etc/passwd | grep "/bin/bash"
The user: root logs in with: /bin/bash and its home dir is: /root
The user: aayushmas logs in with: /bin/bash and its home dir is: /home/aayushmas
aayushmas@Linux:~/cis106/labs/lab9$ awk -F ":" '{print $1 " = " $NF}' /etc/passwd | grep "/bin/bash"
root = /bin/bash
aayushmas = /bin/bash
aayushmas@Linux:~/cis106/labs/lab9$ awk -F ":" '{print $1 " = " $NF}' /etc/passwd | grep "/bin/bash" >> report_users.txt
aayushmas@Linux:~/cis106/labs/lab9$ 
```

Question 4:

- Q.1,2

```

2:aayushmas@Linux:~/cis106/labs/lab9 ~
aayushmas@Linux:~$ cd ~/Documents/sample_files/Csv/
aayushmas@Linux:~/Documents/sample_files/Csv$ ls
cars.csv contacts.csv fake_users.csv
cereal.csv country.csv users_and_ips.csv
aayushmas@Linux:~/Documents/sample_files/Csv$ cd ~/cis106/labs/lab9/
/a
aayushmas@Linux:~/cis106/labs/lab9$ cat ~/cis106/labs/lab9/honda1.csv
Car;MPG;Cylinders;Displacement;Horsepower;Weight;Acceleration;Model;Origin
Honda Civic;24.0;4;120.0;97.00;2489.;15.0;74;Japan
Honda Civic CVCC;33.0;4;91.00;53.00;1795.;17.5;75;Japan
Honda Civic;33.0;4;91.00;53.00;1795.;17.4;76;Japan
Honda Accord CVCC;31.5;4;98.00;68.00;2045.;18.5;77;Japan
Honda Civic CVCC;36.1;4;91.00;60.00;1800.;16.4;78;Japan
Honda Accord LX;29.5;4;98.00;68.00;2135.;16.6;78;Japan
Honda Civic 1500 gl;44.6;4;91.00;67.00;1850.;13.8;80;Japan
Honda Accord;32.4;4;107.0;72.00;2290.;17.0;80;Japan
Honda Civic 1300;35.1;4;81.00;60.00;1760.;16.1;81;Japan
Honda Prelude;33.7;4;107.0;75.00;2210.;14.4;81;Japan
Honda Accord;36.0;4;107.0;75.00;2205.;14.5;82;Japan
Honda Civic;38.0;4;91.00;67.00;1965.;15.0;82;Japan
Honda Civic (auto);32.0;4;91.00;67.00;aayaaaaaaaaaaaaayaaaaaaaaaaaaaa
aayushmas@Linux:~/cis106/labs/lab9$ 

1:aayushmas@Linux:~/cis106/labs/lab9 ~
aayushmas@Linux:~$ cd ~/Documents/sample_files/Csv/
aayushmas@Linux:~/Documents/sample_files/Csv$ head -1 ~/Documents/sample_files/Csv/cars.csv > honda1.csv
aayushmas@Linux:~/Documents/sample_files/Csv$ cat honda1.csv
Car;MPG;Cylinders;Displacement;Horsepower;Weight;Acceleration;Model;Origin
Honda Civic;24.0;4;120.0;97.00;2489.;15.0;74;Japan
Honda Civic CVCC;33.0;4;91.00;53.00;1795.;17.5;75;Japan
Honda Civic;33.0;4;91.00;53.00;1795.;17.4;76;Japan
Honda Accord CVCC;31.5;4;98.00;68.00;2045.;18.5;77;Japan
Honda Civic CVCC;36.1;4;91.00;60.00;1800.;16.4;78;Japan
Honda Accord LX;29.5;4;98.00;68.00;2135.;16.6;78;Japan
Honda Civic 1500 gl;44.6;4;91.00;67.00;1850.;13.8;80;Japan
Honda Accord;32.4;4;107.0;72.00;2290.;17.0;80;Japan
Honda Civic 1300;35.1;4;81.00;60.00;1760.;16.1;81;Japan
Honda Prelude;33.7;4;107.0;75.00;2210.;14.4;81;Japan
Honda Accord;36.0;4;107.0;75.00;2205.;14.5;82;Japan
Honda Civic;38.0;4;91.00;67.00;1965.;15.0;82;Japan
Honda Civic (auto);32.0;4;91.00;67.00;1965.;15.7;82;Japan
aayushmas@Linux:~/cis106/labs/lab9$ sed 's/;/,/g' honda1.csv > honda2.csv
aayushmas@Linux:~/cis106/labs/lab9$ 

```

- Q.3

```

1:aayushmas@Linux:~/cis106/labs/lab9 ~
aayushmas@Linux:~$ echo "model,cylinders,hp" > honda3.csv
aayushmas@Linux:~/cis106/labs/lab9$ awk -F"," '{print $1,",$3,$5}' honda2.csv
Car , Cylinders , Horsepower
Honda Civic , 4 , 97.00
Honda Civic CVCC , 4 , 53.00
Honda Civic , 4 , 53.00
Honda Accord CVCC , 4 , 68.00
Honda Civic CVCC , 4 , 60.00
Honda Accord LX , 4 , 68.00
Honda Civic 1500 gl , 4 , 67.00
Honda Accord , 4 , 72.00
Honda Civic 1300 , 4 , 60.00
Honda Prelude , 4 , 75.00
Honda Accord , 4 , 75.00
Honda Civic , 4 , 67.00
Honda Civic (auto) , 4 , 67.00
aayushmas@Linux:~/cis106/labs/lab9$ awk -F"," 'NR > 1 {print $1,",$3,$5}' honda2.csv
honda2.csv
Honda Civic , 4 , 97.00
Honda Civic CVCC , 4 , 53.00
Honda Civic , 4 , 53.00
Honda Accord CVCC , 4 , 68.00
Honda Civic CVCC , 4 , 60.00
Honda Accord LX , 4 , 68.00
Honda Civic 1500 gl , 4 , 67.00
Honda Accord , 4 , 72.00
Honda Civic 1300 , 4 , 60.00
Honda Prelude , 4 , 75.00
Honda Accord , 4 , 75.00
Honda Civic , 4 , 67.00
Honda Civic (auto) , 4 , 67.00
aayushmas@Linux:~/cis106/labs/lab9$ awk -F"," 'NR > 1 {print $1,",$3,$5}' honda2.csv | sed 's/ , /,/g'
honda2.csv | sed 's/ , /,/g'
Honda Civic,4,97.00
Honda Civic CVCC,4,53.00
Honda Civic,4,53.00
Honda Accord CVCC,4,68.00
Honda Civic CVCC,4,60.00
Honda Accord LX,4,68.00
Honda Civic 1500 gl,4,67.00
Honda Accord,4,72.00
Honda Civic 1300,4,60.00
Honda Prelude,4,75.00
Honda Accord,4,75.00
Honda Civic,4,67.00
Honda Civic (auto),4,67.00
aayushmas@Linux:~/cis106/labs/lab9$ cat honda3.csv
model,cylinders,hp
Honda_Civic,4,97.00
Honda_Civic CVCC,4,53.00
Honda_Civic,4,53.00
Honda_Accord CVCC,4,68.00
Honda_Civic CVCC,4,60.00
Honda_Accord LX,4,68.00
Honda_Civic 1500 gl,4,67.00
Honda_Accord,4,72.00
Honda_Civic 1300,4,60.00
Honda_Prelude,4,75.00
Honda_Accord,4,75.00
Honda_Civic,4,67.00
Honda_Civic (auto),4,67.00
aayushmas@Linux:~/cis106/labs/lab9$ 

```

- Q.4.5

Tilix: aayushmas@Linux: ~/cis106/labs/lab9

```

1:aayushmas@Linux: ~
2:aayushmas@Linux: $ sudo apt install batcat
Error: Unable to locate package batcat
aayushmas@Linux: ~$ sudo apt update
[sudo] password for aayushmas:
Hit:1 http://deb.debian.org/debian trixie InRelease
Hit:2 http://deb.debian.org/debian trixie-updates InRelease
Hit:3 https://packages.microsoft.com/repos/code stable InRelease
Hit:4 http://security.debian.org/debian-security trixie-security InRelease
14 packages can be upgraded. Run 'apt list --upgradable' to see them.
aayushmas@Linux: ~$ sudo apt install bat
The following package was automatically installed and is no longer required:
  libboost-program-options1.83.0
Use 'sudo apt autoremove' to remove it.

Installing:
  bat

Installing dependencies:
  libgit2-1.9      libmbedTLS21
  libhttp-parser2.9 libmbedtls509-7

Summary:
  Upgrading: 0, Installing: 5, Removing: 0, Not Upgrading: 14
  Download size: 3,308 kB
  Space needed: 7,812 kB / 33.9 GB available

Continue? [Y/n] y
Get:1 http://deb.debian.org/debian trixie/main amd64 libhttp-parser2.9 amd64 2.9.4-6+b2 [2
1.2 kB]
Get:2 http://deb.debian.org/debian trixie/main amd64 libmbedtls509-7 amd64 3.6.4-2 [151 kB]
Get:3 http://deb.debian.org/debian trixie/main amd64 libmbedTLS21 amd64 3.6.4-2 [242 kB]
Get:4 http://deb.debian.org/debian trixie/main amd64 libgit2-1.9 amd64 1.9.0+ds-2 [555 kB]
Get:5 http://deb.debian.org/debian trixie/main amd64 bat amd64 0.25.0-2+b2 [2,339 kB]
Fetched 3,308 kB in 1s (3,135 kB/s)
Selecting previously unselected package libhttp-parser2.9:am
d64.
(Reading database ... 197754 files and directories currently
installed.)
Preparing to unpack .../libhttp-parser2.9_2.9.4-6+b2_amd64.d
eb ...
Unpacking libhttp-parser2.9:amd64 (2.9.4-6+b2) ...
Selecting previously unselected package libmbedtls509-7:amd64.
Preparing to unpack .../libmbedtls509-7_3.6.4-2_amd64.deb ...
Unpacking libmbedtls509-7:amd64 (3.6.4-2) ...
Selecting previously unselected package libmbedTLS21:amd64.

```

2:aayushmas@Linux: ~/cis106/labs/lab9

```

aayushmas@Linux: ~$ cd ~/cis106/labs/lab9
aayushmas@Linux: ~/cis106/labs/lab9$ batcat honda3.csv
File: honda3.csv
1 model,cylinders,hp
2 Honda_Civic,4,97.00
3 Honda_Civic CVCC,4,53.00
4 Honda_Civic,4,53.00
5 Honda_Accord CVCC,4,68.00
6 Honda_Civic CVCC,4,60.00
7 Honda_Accord LX,4,68.00
8 Honda_Civic 1500 gl,4,67.00
9 Honda_Accord,4,72.00
10 Honda_Civic 1300,4,60.00
11 Honda_Prelude,4,75.00
12 Honda_Accord,4,75.00
13 Honda_Civic,4,67.00
14 Honda_Civic (auto),4,67.00

```

aayushmas@Linux: ~/cis106/labs/lab9\$

Challenge Question:

Tilix: aayushmas@Linux: ~/cis106/labs/lab9/broken

```

1:aayushmas@Linux: ~/cis106/labs/lab9/broken
2:aayushmas@Linux: ~$ cd ~/cis106/labs/lab9/broken
aayushmas@Linux: ~/cis106/labs/lab9/broken$ ls -1X
styles.css
contact.html
index.html
projects.html
resume.html
favicon.ico
scripts.js
profile.png
aayushmas@Linux: ~/cis106/labs/lab9/broken$ firefox index.html
aayushmas@Linux: ~/cis106/labs/lab9/broken$ mkdir assets
aayushmas@Linux: ~/cis106/labs/lab9/broken$ mv favicon.ico/ profile.png/ assets/
mv: cannot stat 'favicon.ico/': Not a directory
mv: cannot stat 'profile.png/': Not a directory
aayushmas@Linux: ~/cis106/labs/lab9/broken$ mv favicon.ico profile.png assets/
aayushmas@Linux: ~/cis106/labs/lab9/broken$ tree
.
├── assets
│   └── favicon.ico
│   └── profile.png
└── index.html
    └── projects.html
    └── resume.html
    └── scripts.js
    └── styles.css
2 directories, 8 files
aayushmas@Linux: ~/cis106/labs/lab9/broken$ 
```

1:aayushmas@Linux: ~/cis106/labs/lab9/broken\$ grep -i 'href' index.html

```

<link rel="icon" type="image/x-icon" href="assets/favicon.ico" />
<link rel="preconnect" href="https://fonts.googleapis.com" />
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
<link href="https://fonts.googleapis.com/css2?family=Plus+Jakarta+Sans:wght@100;200;300;400;500;600;700;800;900&display=swap" rel="stylesheet" />
<link href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.8.1/font/bootstrap-icons.css" rel="stylesheet" />
<link href="css/styles.css" rel="stylesheet" />
<a class="navbar-brand" href="index.html"><span class="fw-bold er text-primary">Start Bootstrap</span></a>
<li class="nav-item"><a class="nav-link" href="index.html">Home</a></li>
<li class="nav-item"><a class="nav-link" href="resume.html">Resume</a></li>
<li class="nav-item"><a class="nav-link" href="projects.html">Projects</a></li>
<li class="nav-item"><a class="nav-link" href="scripts.html">Scripts</a></li>
<li class="nav-item"><a class="nav-link" href="contact.html">Contact</a></li>
<a class="btn btn-primary btn-lg px-5 py-3 me-3 fs-6 fw-bolder" href="resume.html">Resume</a>
<a class="btn btn-outline-dark btn-lg px-5 py-3 fs-6 fw-bolder" href="projects.html">Projects</a>
<i bi-twitter"></i></a>
<i bi-linkedin"></i></a>
<i bi-github"></i></a>
<a class="small" href="#">Privacy</a>
<a class="small" href="#">Terms</a>
<a class="small" href="#">Contact</a>

```

aayushmas@Linux: ~/cis106/labs/lab9/broken\$ grep -i 'src' index.html

```


<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"></script>
<script src="js/scripts.js"></script>

```

aayushmas@Linux: ~/cis106/labs/lab9/broken\$

Tilix: aayushmas@Linux: ~/cis106/labs/lab9/broken

```

1: aayushmas@Linux: ~/cis106/labs/lab9/broken
.
├── assets
│   └── favicon.ico
│   └── profile.png
├── contact.html
└── index.html
├── projects.html
└── resume.html
└── scripts.js
└── styles.css

2 directories, 8 files
aayushmas@Linux:~/cis106/labs/lab9/broken$ mkdir css js
aayushmas@Linux:~/cis106/labs/lab9/broken$ mv styles.css css/
aayushmas@Linux:~/cis106/labs/lab9/broken$ mv scripts.js js/
aayushmas@Linux:~/cis106/labs/lab9/broken$ tree
.
├── assets
│   └── favicon.ico
│   └── profile.png
├── contact.html
└── css
    └── styles.css
└── js
    └── scripts.js
└── projects.html
└── resume.html

4 directories, 8 files
aayushmas@Linux:~/cis106/labs/lab9/broken$ ^C

```

2: aayushmas@Linux: ~/cis106/labs/lab9/broken

```

aayushmas@Linux:~$ cd ~/cis106/labs/lab9/broken
aayushmas@Linux:~/cis106/labs/lab9/broken$ grep -io 'href="[^"]*' index.html
href="assets/favicon.ico
href="https://fonts.googleapis.com
href="https://fonts.gstatic.com
href="https://fonts.googleapis.com/css2?family=Plus+Jakarta+Sans:wght@100;200;300;400;500;600;700;800;900&display=swap
href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.8.1/font/bootstrap-icons.css
href="css/styles.css
href="index.html
href="index.html
href="resume.html
href="projects.html
href="contact.html
href="resume.html
href="projects.html
href="#!
href="#!
href="#!
href="#!
aayushmas@Linux:~/cis106/labs/lab9/broken$ grep -io 'src="[^"]*' index.html
src="assets/profile.png
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js
src="js/scripts.js
aayushmas@Linux:~/cis106/labs/lab9/broken$ ^C

```

Tilix: aayushmas@Linux: ~/cis106/labs/lab9/broken

```

1: aayushmas@Linux: ~/cis106/labs/lab9/broken
.
├── assets
│   └── favicon.ico
│   └── profile.png
├── contact.html
└── index.html
├── projects.html
└── resume.html
└── scripts.js
└── styles.css

2 directories, 8 files
aayushmas@Linux:~/cis106/labs/lab9/broken$ mkdir css js
aayushmas@Linux:~/cis106/labs/lab9/broken$ mv styles.css css/
aayushmas@Linux:~/cis106/labs/lab9/broken$ mv scripts.js js/
aayushmas@Linux:~/cis106/labs/lab9/broken$ tree
.
├── assets
│   └── favicon.ico
│   └── profile.png
├── contact.html
└── css
    └── styles.css
└── js
    └── scripts.js
└── projects.html
└── resume.html

4 directories, 8 files
aayushmas@Linux:~/cis106/labs/lab9/broken$ ^C
aayushmas@Linux:~/cis106/labs/lab9/broken$ ls -l | grep "^-"
-rw-rw-r-- 1 aayushmas aayushmas 9275 Mar 25 2023 contact.html
-rw-rw-r-- 1 aayushmas aayushmas 27570 Mar 25 2023 index.html
-rw-rw-r-- 1 aayushmas aayushmas 6395 Mar 25 2023 projects.html
-rw-rw-r-- 1 aayushmas aayushmas 15143 Mar 25 2023 resume.html
aayushmas@Linux:~/cis106/labs/lab9/broken$ firefox index.html
aayushmas@Linux:~/cis106/labs/lab9/broken$ ^C

```

2: aayushmas@Linux: ~/cis106/labs/lab9/broken

```

aayushmas@Linux:~$ cd ~/cis106/labs/lab9/broken
aayushmas@Linux:~/cis106/labs/lab9/broken$ grep -io 'src="[^"]*' index.html
src="assets/profile.png
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js
src="js/scripts.js
aayushmas@Linux:~/cis106/labs/lab9/broken$ grep -io 'href="[^"]*' projects.html
href="assets/favicon.ico
href="https://fonts.googleapis.com
href="https://fonts.gstatic.com
href="https://fonts.googleapis.com/css2?family=Plus+Jakarta+Sans:wght@100;200;300;400;500;600;700;800;900&display=swap
href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.8.1/font/bootstrap-icons.css
href="css/styles.css
href="index.html
href="index.html
href="resume.html
href="projects.html
href="contact.html
href="contact.html
href="#!
href="#!
href="#!
aayushmas@Linux:~/cis106/labs/lab9/broken$ grep -io 'src="[^"]*' projects.html
src="https://dummyimage.com/300x400/343a40/6c757d
src="https://dummyimage.com/300x400/343a40/6c757d
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js
src="js/scripts.js
aayushmas@Linux:~/cis106/labs/lab9/broken$ ^C

```

The screenshot shows a web browser window with the URL `file:///home/aayushmas/cis106/labs/lab9/broken/index.html`. The page is titled "Start Bootstrap" and features a navigation bar with links to Home, Resume, Projects, and Contact. A purple header bar contains the text "DESIGN · DEVELOPMENT · MARKETING". Below this, a sub-header says "I can help your business to" followed by a large, bold, magenta text "Get online and grow fast". Two buttons, "Resume" (blue) and "Projects" (white), are positioned below the sub-header. The main content area features a portrait of a smiling Black man with glasses and a beard, wearing a dark blue button-down shirt. He is standing in front of a purple background with a white dotted pattern on the right side. The entire page has a white background.