12 May 2025

Intro To Bash

Advanced Molecular Detection
Southeast Region Bioinformatics

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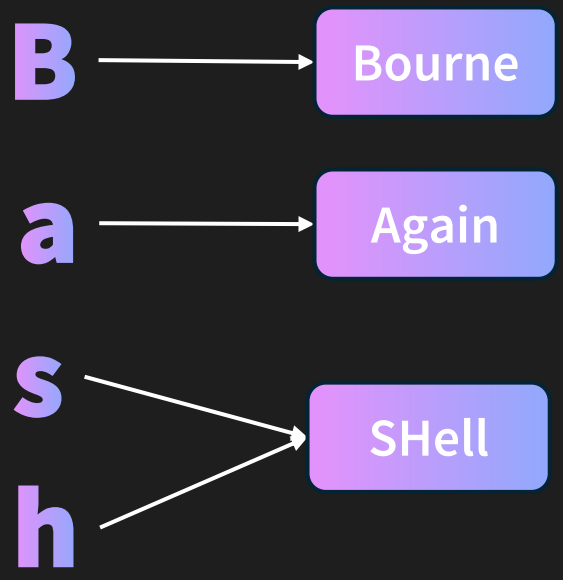
Updates?

- We're scheduling our check-in calls – lookout for our emails!
- Getting the in-person and online training courses scheduled.
  - In-person will be late June/early July and online will follow.
  - I will update you all first thing when it's scheduled.

What is Bash?



- Bash is an application
- Command-line interpreter (CLI) for Unix/Linux systems
- Usage:
  - Writing Shell Scripts
  - Automating Tasks
  - Running Commands
- Default on most systems

Shell vs Terminal vs Bash

Terminal

- Application that hosts the Shell
- Tool (Ex. Laptop Screen/Keyboard or Steering Wheel/Dashboard) -> Input

Bash

- Specific Implementation of Shell
- Specific Model (Ex. Google Chrome or Toyota Camry)

Shell

- Program that interprets commands such as Bash, Zsh, Fish
- Category (Ex. Web Browser or Car)

Main Bash Commands

Navigation	Files & Folders	Viewing Files	Output
pwd cd ls	mkdir touch cp mv rm	cat less more	echo printf

Bash In Action

Initial Setup

```
[n.yengalareddy@login10 Demo]$ cd /blue/bphl-florida/n.yengalareddy/SE_BRR/Demo
[n.yengalareddy@login10 Demo]$ mkdir 0512IntroToBash
[n.yengalareddy@login10 Demo]$ cd 0512IntroToBash/
```

Bonus

```
[n.yengalareddy@login10 0512IntroToBash]$ pwd
/blue/bphl-florida/n.yengalareddy/SE_BRR/Demo/0512IntroToBash
[n.yengalareddy@login10 0512IntroToBash]$ ls
Demo1.sh
```

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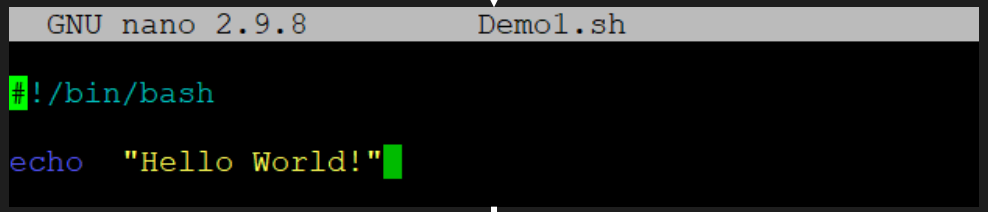
Bash In Action Cont.

Write Your First Bash Script

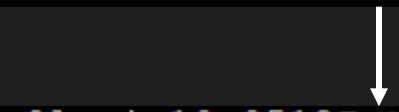
```
[n.yengalareddy@login10 0512IntroToBash]$ nano Demo1.sh
```



```
 GNU nano 2.9.8          Demo1.sh

#!/bin/bash

echo  "Hello World!"
```



```
[n.yengalareddy@login10 0512IntroToBash]$ chmod +x Demo1.sh
[n.yengalareddy@login10 0512IntroToBash]$ ./Demo1.sh
Hello World!
```

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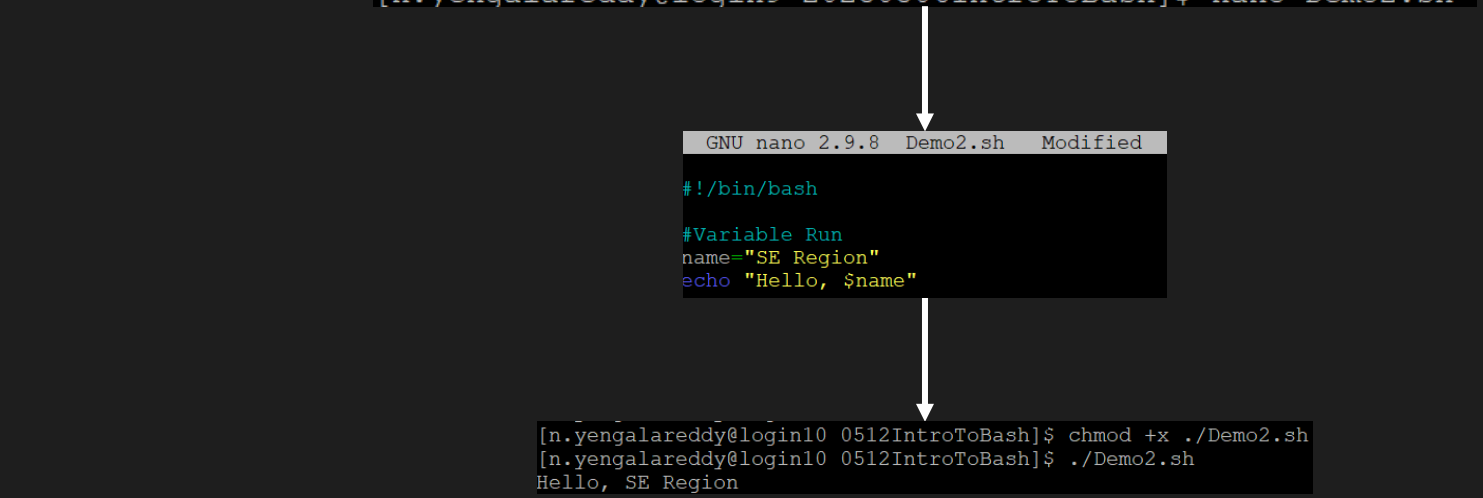
Bash In Action Cont.

Variables & Comments

```
[n.yengalareddy@login9 20250506IntroToBash]$ touch Demo2.sh
[n.yengalareddy@login9 20250506IntroToBash]$ nano Demo2.sh
```



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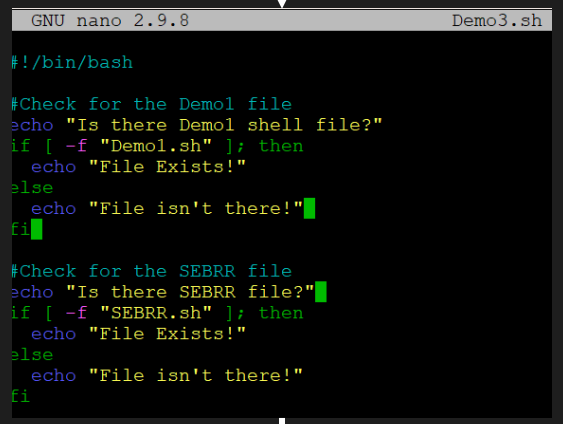
Bash In Action Cont.

IF Statements

```
[n.yengalareddy@login10 0512IntroToBash]$ touch Demo3.sh
[n.yengalareddy@login10 0512IntroToBash]$ nano Demo3.sh
```




```
[n.yengalareddy@login10 0512IntroToBash]$ chmod +x ./Demo3.sh
[n.yengalareddy@login10 0512IntroToBash]$ ./Demo3.sh
```

```
Is there Demo1 shell file?
File Exists!
Is there SEBRR file?
File isn't there!
```

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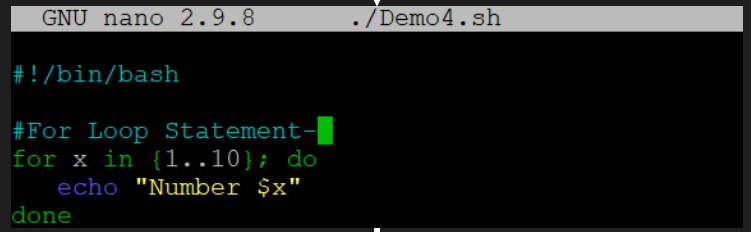
Bash In Action Cont.

For Loops

```
[n.yengalareddy@login10 0512IntroToBash]$ touch Demo4.sh
[n.yengalareddy@login10 0512IntroToBash]$ nano Demo4.sh
```



```
  GNU nano 2.9.8        ./Demo4.sh

#!/bin/bash

#For Loop Statement-
for x in {1..10}; do
   echo "Number $x"
done
```

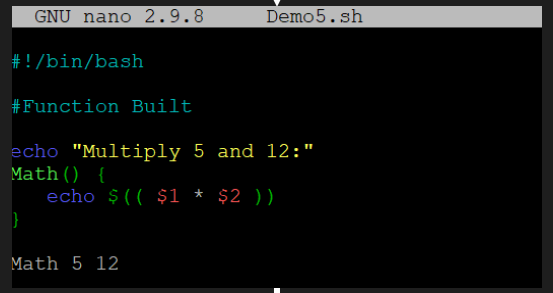
```
[n.yengalareddy@login10 0512IntroToBash]$ chmod +x ./Demo4.sh
[n.yengalareddy@login10 0512IntroToBash]$ ./Demo4.sh
```

```
Number 1
Number 2
Number 3
Number 4
Number 5
Number 6
Number 7
Number 8
Number 9
Number 10
```

Bash In Action Cont.

Functions

```
[n.yengalareddy@login10 0512IntroToBash]$ touch Demo5.sh
[n.yengalareddy@login10 0512IntroToBash]$ nano Demo5.sh
```




```
[n.yengalareddy@login10 0512IntroToBash]$ chmod +x ./Demo5.sh
[n.yengalareddy@login10 0512IntroToBash]$ ./Demo5.sh
```

```
Multiply 5 and 12:
60
```

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Conclusion


Fundamentals of Bash
Important Bash Commands
Successfully Executed Bash Shell Scripts

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Questions?

bphl-sebioinformatics@flhealth.gov

Molly Mitchell, PhD
Bioinformatics Supervisor
Molly.Mitchell@flhealth.gov

Nikhil Reddy, MS
Bioinformatician
Nikhil.Yengala@flhealth.gov

Sam Bernhoft, MPH
Bioinformatician
Samantha.Bernhoft@flhealth.gov