

LAB3 – Modified Script

📝 What This Assignment Was About

We had to take an existing script (`print_numbers.sh`) that just printed numbers from 1 to 5 and improve it so that it takes input from the user — specifically, the **start**, **end**, and **step** values. The script also had to check if the step is a positive number.

🔧 What The Original Script Did

The original script was very simple. It just printed numbers from 1 to 5:

```
#!/bin/bash

for i in {1..5}
do
    echo "Number: $i"
done
```

It didn't take any input or check anything. You couldn't change the range without editing the file.

◆ What I Changed – New Script

I made a new script called `enhanced_numbers.sh`. This one lets the user **type in** 3 values:

Where to start

Where to end

The step size

It also checks **if** the step is greater than 0 before running.

💻 New Script: enhanced_numbers.sh

```
#!/bin/bash
```

```
# Check for 3 arguments
if [ $# -ne 3 ]; then
    echo "Usage: $0 start end step"
    exit 1
fi
```

```
start=$1
end=$2
step=$3
```

```
# Make sure step is positive
if [ $step -le 0 ]; then
    echo "Error: Step must be a positive number."
    exit 1
fi

# Print the numbers
for (( i=$start; i<=$end; i+=$step ))
do
    echo "Number: $i"
done

📝 Example Outputs
 Example 1
bash
```

\$./enhanced_numbers.sh 1 10 2
Output:

Number: 1
Number: 3
Number: 5
Number: 7
Number: 9
 Example 2
bash

\$./enhanced_numbers.sh 5 20 5
Output:

Number: 5
Number: 10
Number: 15
Number: 20
✖ Invalid Step
bash

\$./enhanced_numbers.sh 1 10 -2
Output:

typescript

Error: Step must be a positive number.
? Extra Questions
Q1: What's the difference between \$1, \$@, and \$#?
\$1 is the first argument

\$@ is all the arguments

\$# is the number of arguments

Example:

bash

```
$ ./script.sh apple banana cherry
```

\$1 = apple

\$@ = apple banana cherry

\$# = 3

Q2: What does **exit 1** mean?

exit 1 ends the script and tells the system something went wrong.

It's used to stop the script when there's an error like missing input or bad data.

exit 0 = everything was fine

exit 1 (or any non-zero number) = there was an error

What I Learned

How to use **\$1**, **\$@**, and **\$#**

How to check input **in** Bash scripts

How to use loops with custom values

That **exit 1** helps stop the script when needed
