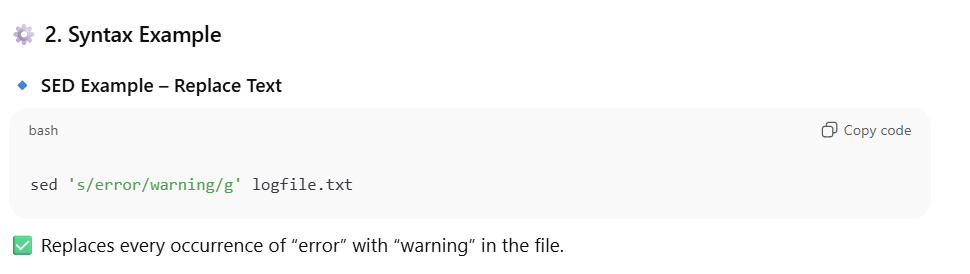
LINUX BASH SCRIPTING

1. What is the difference between awk and sed in linux?

SED🡪 sed is a stream editor. It works with streams of characters on a per-line basis. I would tend to use sed where there are patterns in the text.



AWK🡪 awk is oriented toward delimited fields on a per-line basis. It has much more robust programming constructs including if/else, while, do/while and for (C-style and array iteration

I would use awk when the text looks more like rows and columns or, as awk refers to them "records" and "fields".

A white rectangular object with black text

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A screenshot of a computer

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1. Difference between “cut” and “tr” .

both **cut** and **tr** are simple but very commonly used text-processing commands in Linux.

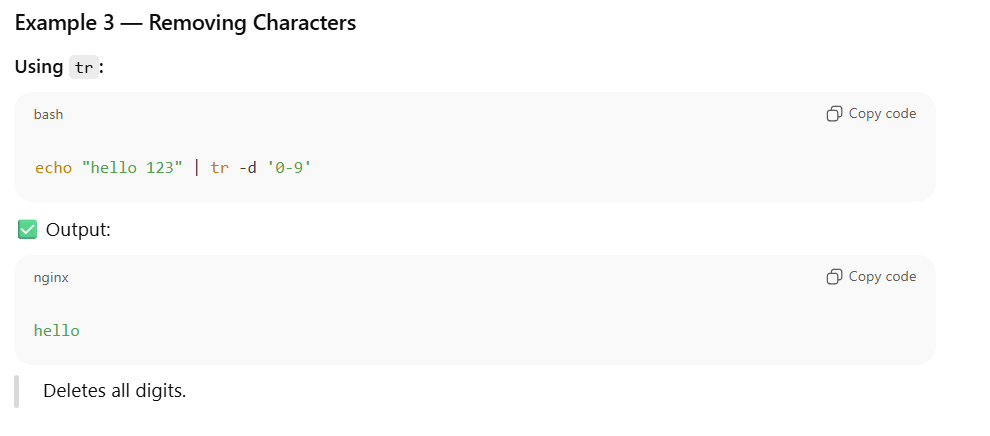
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1. Variable Types in BASH

A screenshot of a computer

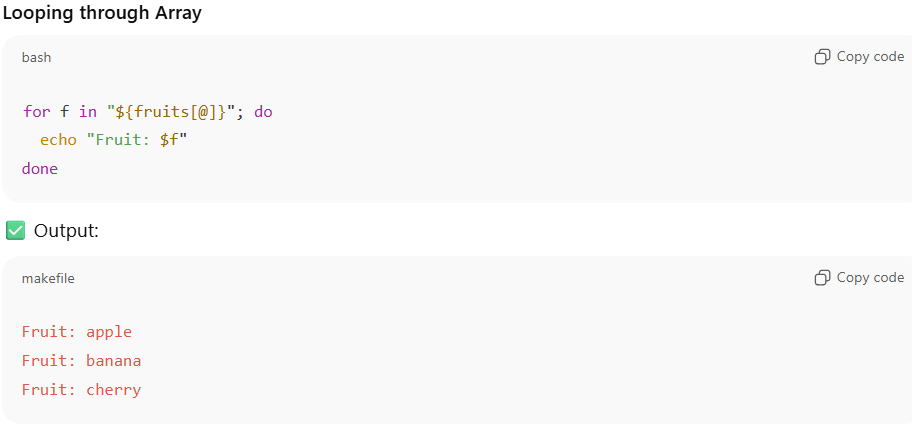
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1. Accessing 1D elements in bash

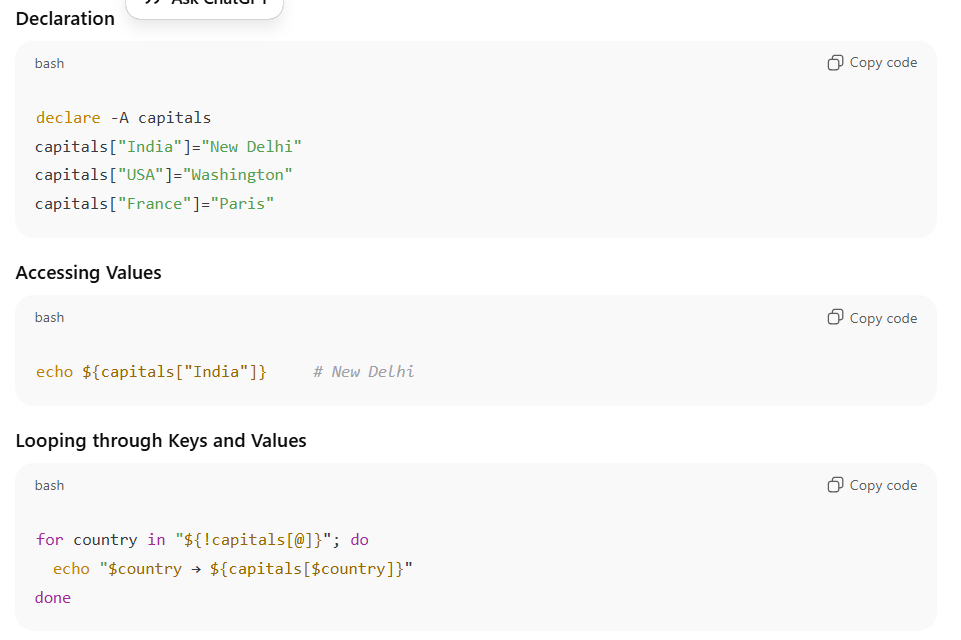
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1. Looping through Array elements



1. Associative Array (Key–Value Pair)



1. 2D Arrays in Bash (Simulated)

Bash doesn’t natively support true multidimensional arrays,  
but we can simulate them using **indexed arrays of arrays** or **associative arrays**.

A screenshot of a computer program

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1. Array Operations Summary



1. Build dynamically in a loop

If you want to **fill an empty 2D array on the fly** (dynamic size):

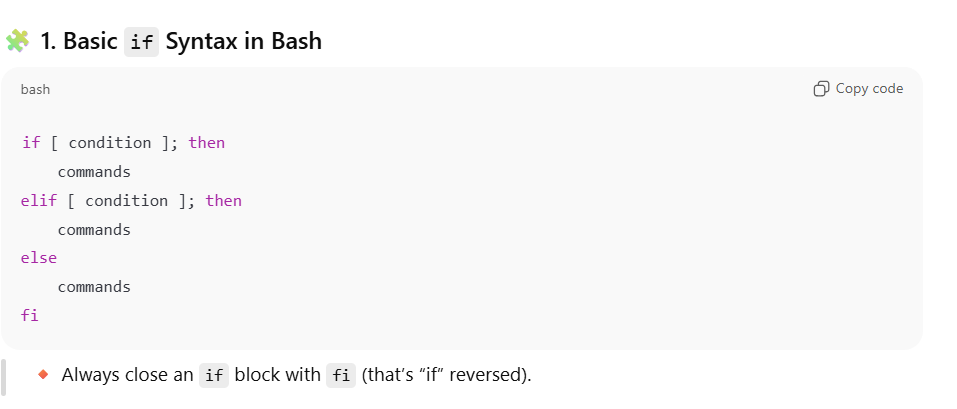
A computer screen shot of a code

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1. IF/ELSE – Syntax, Conditions (strings, numbers, files, logical, etc.)



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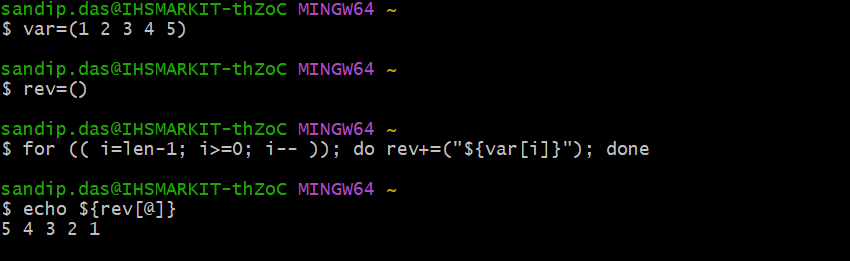
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1. Array slicing 🡪 print second and third element of an array.

A black screen with colorful text

AI-generated content may be incorrect.

1. Reverse an array



A computer code with many numbers

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13 . How to reverse a string in bash?

var="12345"

rev=""

for(( i=0 ; i<${#var} ; i++ )); do rev="${var:i:1}$rev"; done

echo "var: $var, rev: $rev"

1. Find Duplicate Elements in an Array

======================================================================

**POWERSHELL**