**Bash Command Cheat Sheet**

**Shell Environment and Variables**

| **Command** | **Description** | **Example** |
| --- | --- | --- |
| env | Displays environment variables or runs commands in a modified environment. | env or env VAR=value command |
| export | Sets environment variables to be available for child processes. | export PATH=$PATH:/my/new/path |
| unset | Removes a variable from the shell environment. | unset PATH |
| set | Displays all shell variables (local and environment) or sets shell options. | set |
| declare | Declares variables with options, e.g., as constants or environment variables. | declare -x VAR=value |
| typeset | Similar to declare, used for variable declarations. | typeset -x VAR=value |

**Command Input and Output**

| **Command** | **Description** | **Example** |
| --- | --- | --- |
| echo | Prints text or variables to the terminal. | echo "Hello World" or echo $PATH |
| history | Displays the list of previously executed commands. | history or history -c |

**File and Directory Management**

| **Command** | **Description** | **Example** |
| --- | --- | --- |
| pwd | Prints the current working directory. | pwd |
| mkdir | Creates a new directory. | mkdir myfolder |
| chmod | Changes file permissions. | chmod u+x myscript.sh |
| mv | Moves or renames files and directories. | mv oldname.txt newname.txt |
| cp | Copies files or directories. | cp file.txt backup\_file.txt |
| ls | Lists files and directories. | ls -l or ls /path/to/directory |
| cd | Changes the current working directory. | cd /path/to/directory |

**System and Command Information**

| **Command** | **Description** | **Example** |
| --- | --- | --- |
| bash | Opens a new shell or runs a shell script. | bash script.sh |
| exit | Exits the current shell. | exit |
| which | Locates the executable file of a command. | which ls |
| type | Describes how a command will be interpreted (alias, built-in, or binary). | type ls |

**Time and Calendar**

| **Command** | **Description** | **Example** |
| --- | --- | --- |
| date | Displays or sets the system date and time. | date or date "+%Y-%m-%d %H:%M:%S" |
| cal | Displays a calendar for the current or specified month/year. | cal or cal 2025 |

**File Viewing and Filtering**

| **Command** | **Description** | **Example** |
| --- | --- | --- |
| less | Views file contents one screen at a time. | less myfile.txt |
| grep | Searches for a pattern within text files or command output. | grep "pattern" file.txt |
| tail | Displays the last lines of a file or command output. | tail -n 5 myfile.txt |

**Advanced Usage**

| **Command** | **Description** | **Example** |
| --- | --- | --- |
| env VAR=value command | Temporarily sets an environment variable for the duration of a command. | env TZ=EST date |
| `history | grep "pattern"` | Filters history for commands matching a pattern. |
| history -c | Clears the command history. | history -c |
| HISTCONTROL | Configures history behaviour (e.g., ignores duplicates). | HISTCONTROL=ignoredups |

**Usage Tips**

* **Variables**: $VAR references a variable, and ${VAR} makes it more readable in scripts.
* **Redirection**: Use > to redirect output to a file and >> to append to a file.
* **Command Chaining**: Use | to pipe output from one command to another.