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# Bash Style Redirection Syntax

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# 01

## Regular Operators

1. “>”
2. “>>”
3. “<”
4. “2>”



# Regular output > operator

**>:**

- 1. Redirecting the output of the program from stdout to somewhere else, such as files, etc.**
- 2. If the file doesn't exist, it is created automatically.**
- 3. If the file exists, the operator will rewrite it.**

```
lxj@ubuntu:~/Documents/project1$ date > 1.txt  
lxj@ubuntu:~/Documents/project1$ cat 1.txt  
Tue 21 Sep 2021 10:12:07 PM PDT
```



# Regular output append >> operator

**>>:**

1. Redirecting the output of the program from stdout to somewhere else, such as files, etc.
2. If the file doesn't exist, it is created automatically.
3. If the file exists, add the output to the existing content instead of overwriting it.

```
lxj@ubuntu:~/Documents/project1$ date > 1.txt
lxj@ubuntu:~/Documents/project1$ hostname >> 1.txt
lxj@ubuntu:~/Documents/project1$ cat 1.txt
Tue 21 Sep 2021 10:17:32 PM PDT
ubuntu
```





# Regular input < operator

<:

1. Pull data in a stream from a given source.

≡ 1.txt

|   |   |
|---|---|
| 1 | 9 |
| 2 | 8 |
| 3 | 4 |
| 4 | 1 |
| 5 | 2 |
| 6 | 3 |

```
lxj@ubuntu:~/Documents/project1$ sort < 1.txt
```

```
1
2
3
4
8
9
```



# Regular error 2> operator

**2>:**

- 1. Errors are managed differently from the normal process.**
- 2. Error output are labeled as file descriptor 2; standard output is file descriptor 1.**
- 3. The error is usually sent to the stdout, but it can be redirected elsewhere.**

```
lxj@ubuntu:~/Documents/project1$ cat 1
cat: 1: No such file or directory
lxj@ubuntu:~/Documents/project1$ cat 1 2> /dev/null
```



# 02

## Redirection

1. “>&”



# “>&” operator

**&>word:**

1. This construct allows both the stdout and stderr to be redirected to the file whose name is the expansion of “word”.
2. &>word, >&word, >word 2>&1 are equivalent.

**Analysis for >word 2>&1 :**

1. “> word”: Redirect stdout to the file named “word”.
2. “2>&1”: Redirect stderr to stdout which has already pointed to word.





# Thanks

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