## Redirection – Standard Output

Main use of the cat command – to concatenate or stick together multiple files, simple command that reads standard input (text written in) and writes to standard output to terminal.

The control C to exit cat and get control of terminal back

A screenshot of a computer

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### How to redirect standard output to a file:

Use the cat 1> output.txt - (cannot have space between 1>, can have no space between >output.txt) reason being that standard output is the name of the stream that the data goes down – and each stream has a name and output associated with it. SO standard input has number Zero and standard output has number 1, and standard error is number 2. So we are redirecting or changing the direction of where the oupt is going to in this case the file. So press enter and type your sentence and then enter again – it won’t take you to terminal so you put control C

NOTE – the way cat is built you don’t need to put the 1 after the cat you can just write cat > output.txt and then complete the same operation and it will run. – but is important for updating other data streams

A close up of a logo

AI-generated content may be incorrect. what you will find is that no output comes to the terminal because it is saved to the file in our home folder

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### Adding more text to the file without truncating:

With truncating

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AI-generated content may be incorrect. You cannot do this because redirection the Shell will truncate everything before and empty the file and then wrote.

Without truncating- APPENDING – use of >> double arrows or 1>> :

A computer screen shot of text

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## Redirection – Standard Input and Standard Error

The data stream for standard error is 2 so you would do cat 2> error.txt - this would redirect the standard error from the cat command to error.txt

To append the error to whatever is already in error.txt – do cat 2>> error.txt - you use the 2 arrows

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A white paper with text on it

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The error message has been sent to this location.

Best use is common LOG errors from web servers – but the common error is to use 1 arrow > you should use 2 arrows >> so it always APPENDS to the text file

A screenshot of a computer screen

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A white text on a white background

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### Redirect standard output and standard error at the same time

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### Standard Input from a file instead of keyboard

Create a file called input.txt

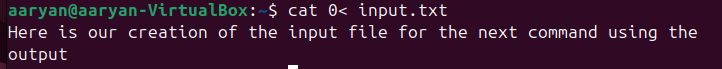
A screenshot of a computer

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A screenshot of a computer

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Use of the file as the input - use cat 0< input.txt OR cat < input.txt



### Combining all 3 standard input, output and error



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NOTE – THIS ALSO ERRASED EVERYHTING WITHIN THE OUPUT AND ERROR TXT BECAUSE OF THE USE OF 1 ARROW so remember 2 >> to keep all details there

### Communicating between 2 terminals

Open second terminal and type tty – tells the location of the terminal

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Command to have your standard output on the second terminal which address is the result of tty

Screenshot of a computer screen

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Shows how you can use redirection to pass data across your whole computer and across computer systems

### Summary

* Standard Input, Output and Error are Data Streams
* Using redirecton, you can control where those streams FLOW
* Standard input = 0, standard output = 1, standard error = 2
* > will overwrite a file before writing it
* >> will append a file to what is already there

Important data sources - <https://mywiki.wooledge.org/BashGuide/InputAndOutput?#Redirection>

<https://www.gnu.org/software/bash/manual/html_node/Redirections.html>

How would you redirect the standard output of the ls  command to a file called output.txt  = ls > output.txt

How would you redirect the standard output of the ls  command to output.txt  but at the same time redirect standard error to error.txt ? ls >> output.txt 2>> error.txt