GNU Para*ll*el Cheat Sheet

GNU Parallel is a replacement for *xargs* and *for* loops. It can also split a file or a stream into blocks and pass those to commands running in parallel.

Examples

Compress all *.html files in parallel – 2 jobs per CPU thread in parallel

```
parallel --jobs 200% gzip ::: *.html
```

Convert all *.wav to *.mp3 using *lame* – 1 job per CPU thread in parallel (default)

```
parallel lame {} -o {.}.mp3 ::: *.wav
```

Chop bigfile into 1MB blocks and grep for the string foobar

```
cat bigfile | parallel --pipe grep foobar
```

Input sources

```
parallel echo ::: cmd line input source
cat input_from_stdin | parallel echo
parallel echo ::: multiple input sources ::: with values
parallel -a input_from_file echo
parallel echo :::: input_from_file
parallel echo :::: input_from_file ::: and command line
```

Replacement string	Value if input is mydir/mysubdir/myfile.myext
{}	mydir/mysubdir/myfile.myext
{.}	mydir/mysubdir/myfile
{/}, {//}, {/.}	myfile.myext, mydir/mysubdir, myfile
{#}	*The sequence number of the job*
{%}	*The job slot number*
{2}	*Value from the second input source*
{2.} {2/} {2//} {2/.}	*Combination of {2} and {.} {/} {//} {/.}*
{= perl expression =}	*Change $_ with perl expression*

Control the output – keep the same order as the input, prepend with input value

```
parallel --keep-order --tag "sleep {}; echo {}" ::: 5 4 3 2 1
```

Control the execution

Run 2 jobs in parallel – command is a composed command

```
parallel --jobs 2 "sleep {}; echo {}" ::: 5 4 3 2 1
```

See what will be run

```
parallel --dryrun echo {2} {1} ::: bird flower fish ::: Red Green Blue
```

Remote execution

```
parallel -S server1 -S server2 "hostname; echo {}" ::: foo bar
```

Pipe mode

```
cat bigfile | parallel --pipe wc -l
```

Chop bigfile into one block per CPU thread and *grep* for foobar

```
parallel -a bigfile --pipepart --block -1 grep foobar
```

Read more – Your command line will love you for it

```
parallel --help;  man parallel;  man parallel_tutorial;  www.pi.dk/1
```

GNU Parallel 2018 https://doi.org/10.5281/zenodo.1146014