

TDS (Taylor-expansion based Decomposition System) - list of basic commands

```
Tds 01> help
- balance          Balance the DFG or Netlist to minimize latency.
- bbldown          Move down the given variable one position.
- bblup           Move up the given variable one position.
- bottom          Move the given variable to the bottom.
- bottomdcse       CSE Dynamic, move candidates to bottom.
- bottomscse       CSE Static, move candidates to bottom.
- candidate        Show the candidates expression for CSE.
- compute          Annotate the bitwidths required for exact computation.
- cost            Prints out the cost associated to this TED.
- dcse            CSE Dynamic, extract all candidates available.
- decompose        Decompose the TED in its Normal Factor Form.
- dfactor          Dynamic factorization.
- dfg2ntl          Generate a Netlist from the DFG.
- dfg2ted          Generate a TED from the DFG.
- dfgarea          Balance the DFG to minimize the area.
- dfgevalconst     Replace constant multipliers by shifters.
- dfgschedule      Perform the scheduling of the DFG.
- erase            Erase a primary output from the TED.
- eval            Relocate the given variable to the desired position.
- exchange         Exchange the position of two variables.
- explore          Performs a space exploration of the architecture
                  (under development).
- extract          Extract primary outputs from the TED or Netlist.
- fixorder         Fixes the order broken by a retime operation.
- flip            Flip the order of a linearized variable.
- info            Print out TED information: statistic, etc.
- jumpAbove        Moves a variable above another one.
- jumpBelow        Moves a variable below another one.
- lcse            CSE for linearized TED.
- linearize        Transform a non linear TED into a linear one.
- listvars         List the variables in a top to bottom order.
- load            Load the environment.
- ntl2ted          Extract from a Netlist all parts representable by TED.
- optimize         Minimizes the bitwidth of a DFG keeping the maximum
                  error bound.
- poly            Construct a TED from a polynomial expression.
- print            Print out TED information: statistic, etc.
- printenv         Print the environment variables.
- printntl         Print out statistics of the Netlist.
- purge           Purge the TED, DFG and/or Netlist.
- quartus          Generates a quartus project, compiles it and report its
                  frequency and logic elements.
- read            Read a script, a CDFG, a TED or a DFG.
- reloc           Relocate the given variable to the desired position.
- remapshift       Remap the shifters to <<.
- reorder          Reorder the variables in the TED (Pre-fixed cost).
- reorder*         Reorder the variables in the TED. (User defined cost)
- retime           Performs (forward/backward) retiming in TED.
- save            Save the environment.
- scse            CSE Static, extract one candidate at a time.
- set             Set the variable bitwidth and other options.
- setenv          Set a environment variable.
- shifter          Replace constant multipliers by shifters.
- show            Show the TED, DFG or Netlist graph.
- sift            Heuristically optimize the level of the variable.
- sub             Substitute an arithmetic expression by a variable
- ted2dfg          Generate a DFG from the TED.
```

```

- top                Move the given variable to the top.
- tr                 Construct a TED from a set of DSP transforms.
- vars              Preset the order of variables, before any TED is given.
- verify            Verifies that two TED outputs are the same.
- write             Write the existing NTL|DFG|TED into a*.[cdfg|dfg|ted] file.
----- ALIASES (stored in file tds.aliases) -----
- flatten
- shifter*
- stats
----- GENERAL
- ![bin]             System call to execute bin
- h[elp]             Print this help
- e[xit]             Exit the shell
- q[uit]             Quit the shell
- history            Prints executed commands and their execution times
- time              Show the elapsed time for the last command executed
- man                Prints the manual of the given command
The shell accepts command completion. i.e. type dec<TAB> for decompose
Tds 01> quit

```