



## UDB Quick Reference

### Start Working

**\$> udb /path/to/program**

Start debugger, ready to record program

**\$> udb --args /path/to/program ARG1 ...**

Start debugger, ready to record program with arguments

**start**

(Re)start the program from the beginning and run until main()

**run** or shortcut **r**

(Re)start the program from the beginning and run until interrupted

**\$> udb /path/to/recording**

Start debugger and load a recording file for analysis

**\$> udb -p PID**

Start debugger and attach to existing process

### Recording Files

**uload RECORDING**

Load named recording for replay-mode debugging

**usave RECORDING**

Save recorded history to a file for later analysis

### Breakpoints

**break [LOC] [if COND]** or shortcut **b**

Stop each time LOC is reached [if COND true]

**watch VAR [if COND]**

Stop each time VAR changes [if COND true]

**delete N** or shortcut **d**

Delete break/watchpoint

**tbreak [LOC] [if COND]** or shortcut **tb**

Stop just next time LOC is reached [if COND true]

**disable N**

Temporarily disable break/watchpoint

**enable N** or shortcut **en**

Re-enable break/watchpoint

**dprintf LOC, FMT [,VALUES]**

Print FMT each time LOC is reached

### Inspecting State

**print EXPR** or shortcut **p**

Print the value of C expression EXPR

**display EXPR**

Print value of EXPR at each prompt

## Forward / Reverse Navigation

### **continue** or shortcut **c**

Forward to next break/watchpoint (if any)

### **reverse-continue** or shortcut **rc**

Backward to next break/watchpoint (if any)

### **next** or shortcut **n**

Forward one source line, stepping over functions

### **reverse-next** or shortcut **rn**

Backward one source line, stepping over functions

### **step** or shortcut **s**

Forward one source line, stepping into functions

### **reverse-step** or shortcut **rs**

Backward one source line, stepping into functions

### **stepi** or shortcut **si**

Forward one machine instruction

### **reverse-stepi** or shortcut **rsi**

Backward one machine instruction

### **finish** or shortcut **fin**

Forward until current function has returned

### **reverse-finish** or shortcut **rf**

Backward until just before function was called

## Time Travel Navigation

### **info time**

Get the current debuggee time

### **ugo time TIME**

Jump to specified time

### **ugo start | end**

Jump to start / end of recorded history

### **ubookmark NAME**

Create a bookmark at current debuggee time

### **ugo bookmark NAME**

Jump to time corresponding to a named bookmark

### **info bookmarks [-a]**

List available bookmarks and their times

### **ugo wallclock TIMESTAMP**

Jump to time corresponding to a wall clock time

## Undo / Redo Navigation

### **ugo undo** or shortcut **uu**

Undo the last navigation operation

### **ugo redo** or shortcut **ur**

Reverse the effect of the ugo undo command