Instrument Designer Command Formats

Command output formats are shown below. This includes what the display should look like when erroneous input is given by the user. These outputs come directly from the reference implementation that was used to create the expected outputs for the acceptance tests.

Administrative commands

`menu` / `help`

```
Choice? menu
Options are:
  # - Skip to end of line (comment).
  add-envelope - Add envelope to the inventory.
  add-instrument - Add instrument to the inventory.
  add-waveform - Add waveform to the inventory.
  comment - Skip to end of line (comment).
  configure-audio-track-and-wav-file - Configure meta data for the audio track and WAV file.
  echo - Echo back the arguments given.
  edit-envelope - Edit envelope in the inventory.
  edit-instrument - Edit instrument in the inventory.
  edit-waveform - Edit waveform in the inventory.
  help - Display help message.
  list-envelopes - List envelopes in the inventory.
  list-instruments - List instruments in the inventory.
  list-waveforms - List waveforms in the inventory.
  menu - Display help message.
  quit - Terminate the program.
  record-instrument-note - Record a note for an instrument to a WAV file.

Choice?
```

`echo`

```
Choice? echo Welcome to the instrument designer program!
 Welcome to the instrument designer program!
Choice?
```

`#` / `comment`

```
Choice? #hello world
Choice? # skip me
Choice? comment none
Choice?
```

`quit`

Waveform commands

`add-waveform`

```
Choice? add-waveform
Waveform name: bart
Waveform type: square
Amplitude: 1.0
Choice?
```

`list-waveforms`

```
Choice? list-waveforms
bart : bart square 1
lisa : lisa sine 1
Choice?
```

`edit-waveform`

```
Choice? edit-waveform
Waveform name: bart
Amplitude(1): 0.6
Choice? edit-waveform
Waveform name: bart
Amplitude(0.6): 0.5
Choice?
```

Envelope commands

`add-envelope`

```
Choice? add-envelope
Envelope name: simpson
Envelope type: AD
Maximum amplitude: 1.0
Attack seconds: 0.05
Choice? add-envelope
Envelope name: flintstone
Envelope type: ADSR
Maximum amplitude: 1.0
Attack seconds: 0.06
Decay seconds: 0.1
Sustain amplitude: 0.6
Release seconds: 0.05
Choice?
```

`list-envelopes`

```
Choice? list-envelopes
flintstone : flintstone ADSR 1
simpson : simpson AD 1
Choice?
```

`edit-envelope`

```
Choice? edit-envelope
Envelope name: flintstone
Maximum amplitude(1): 0.9
Attack seconds(0.06): 0.07
Decay seconds(0.1): 0.1
Sustain amplitude(0.6): 0.6
Release seconds(0.05): 0.01
Choice?
```

Instrument commands

`add-instrument`

```
Choice? add-instrument
Instrument name: lisa-simpson
Waveform name: lisa
Envelope name: simpson
Choice?
```

`list-instruments`

```
Choice? list-instruments
bart-flintstone : bart flintstone
bart-simpson : bart simpson
lisa-flintstone : lisa flintstone
lisa-simpson : lisa simpson
Choice?
```

`edit-instrument`

```
Choice? edit-instrument
Instrument name: bart-flintstone
```

```
Waveform name: lisa
Envelope name: flintstone
Choice?
```

WAV file commands

`configure-audio-track-and-wav-file`

```
Choice? configure-audio-track-and-wav-file
Samples/Second: 44100
Seconds: 1.2
Bits/Sample[8,16,24,32]: 24
Choice?
```

`record-instrument-note`

```
Choice? record-instrument-note
Instrument name: lisa-flintstone
Frequency: 130.813
WAV filename: lf-c3.wav
Choice? record-instrument-note
Instrument name: bart-simpson
Frequency: 1046.502
WAV filename: bs-c6.wav
Choice?
```

Error messages

Bad command

```
Choice? bad-command-name
Unknown action 'bad-command-name'. Use 'help' for a list of valid actions
Choice?
```

`add-waveform` bad waveform type

```
Choice? add-waveform
Waveform name: place-holder
Waveform type: inverse-sine
Unable to create a waveform of type 'inverse-sine'.
Choice?
```

`add-waveform` bad amplitude

```
Choice? add-waveform
Waveform name: quiet-sound
Waveform type: sine
Amplitude: -1.2
Choice? list-waveforms
bart : bart square 0.5
lisa : lisa sine 1
quiet-sound : quiet-sound sine 1
Choice?
```

`edit-waveform` bad waveform name

```
Choice? edit-waveform
Waveform name: place-holder
Unable to find a waveform with name 'place-holder'.
Choice?
```

`edit-waveform` bad amplitude

```
Choice? edit-waveform
Waveform name: quiet-sound
```

```
Amplitude(1): 3.5
Choice? list-waveforms
bart : bart square 0.5
lisa : lisa sine 1
quiet-sound : quiet-sound sine 1
Choice?
```

`add-envelope` **bad envelope type**

```
Choice? add-envelope
Envelope name: usps
Envelope type: piano
Unable to create an envelope of type 'piano'.
Choice?
```

`add-envelope` **bad value(s)**

```
Choice? add-envelope
Envelope name: fedex
Envelope type: ADSR
Maximum amplitude: -0.2
Attack seconds: -0.1
Decay seconds: -0.3
Sustain amplitude: -0.4
Release seconds: -0.5
Choice? list-envelopes
fedex : fedex ADSR 1
flintstone : flintstone ADSR 0.9
simpson : simpson AD 1
Choice?
```

`edit-envelope` **bad envelope name**

```
Choice? edit-envelope
Envelope name: usps
Unable to find an envelope with name 'usps'.
Choice?
```

`edit-envelope` **bad value(s)**

```
Choice? edit-envelope
Envelope name: fedex
Maximum amplitude(1): 1.7
Attack seconds(0): -0.9
Decay seconds(0): -0.8
Sustain amplitude(0.5): 2.1
Release seconds(0): -0.7
Choice?
```

`add-instrument` **bad waveform**

```
Choice? add-instrument
Instrument name: keytar
Waveform name: marge
Envelope name: simpson
marge does not name a waveform in this application.
Choice?
```

`add-instrument` **bad envelope**

```
Choice? add-instrument
Instrument name: keytar
Waveform name: bart
Envelope name: rubble
rubble does not name an envelope in this application.
Choice?
```

`add-instrument` bad waveform and envelope

```
Choice? add-instrument
Instrument name: keytar
Waveform name: marge
Envelope name: rubble
marge does not name a waveform in this application.
Choice?
```

`edit-instrument` bad instrument name

```
Choice? edit-instrument
Instrument name: keytar
Waveform name: lisa
Envelope name: simpson
keytar does not name an instrument in this application.
Choice?
```

`edit-instrument` bad waveform name

```
Choice? edit-instrument
Instrument name: lisa-flintstone
Waveform name: marge
Envelope name: flintstone
marge does not name a waveform in this application.
Choice?
```

`edit-instrument` bad envelope name

```
Choice? edit-instrument
Instrument name: lisa-flintstone
Waveform name: lisa
Envelope name: rubble
rubble does not name an envelope in this application.
Choice?
```

`edit-instrument` bad instrument, waveform, envelope names

```
Choice? edit-instrument
Instrument name: keytar
Waveform name: marge
Envelope name: rubble
keytar does not name an instrument in this application.
Choice?
```

`edit-instrument` bad waveform and envelope names

```
Choice? edit-instrument
Instrument name: lisa-flintstone
Waveform name: marge
Envelope name: rubble
marge does not name a waveform in this application.
Choice?
```

`configure-audio-track-and-wav-file` bad sample rate

```
Choice? configure-audio-track-and-wav-file
Samples/Second: -4400
Seconds: 1.2
Bits/Sample[8,16,24,32]: 24
Choice?
```

`configure-audio-track-and-wav-file` bad seconds

```
Choice? configure-audio-track-and-wav-file
Samples/Second: 44100
Seconds: -1.2
Bits/Sample[8,16,24,32]: 24
Choice?
```

`configure-audio-track-and-wav-file` **bad bit rate**

```
Choice? configure-audio-track-and-wav-file
Samples/Second: 44100
Seconds: 1.2
Bits/Sample[8,16,24,32]: 9
Choice?
```

`record-instrument-note` **bad instrument**

```
Choice? record-instrument-note
Instrument name: homer-simpson
homer-simpson does not name an instrument in this application.
Choice?
```

`record-instrument-note` **bad frequency**

```
Choice? record-instrument-note
Instrument name: lisa-flintstone
Frequency: -300.1
WAV filename: file.wav
Choice?
```