## **Command Line: Bash Scripting Workshop Handout**

```
1 cd data-shell/molecules/
                 2 head -n 15 octane.pdb
                 3 head -n 15 octane.pdb | tail -n 5
                 4 vi middle.sh
make
                          head -n 15 octane.pdb | tail -n 5
script
                 6 bash middle.sh
                 7 vi middle.sh
argument
                          head -n 15 $1 | tail -n 5
                 9 bash middle.sh octane.pdb
                 10 bash middle.sh "high octane.pdb"
                 11 vi middle.sh
quote your
                          head -n 15 "$1" | tail -n 5
variable
                 12
                 13 bash middle.sh "high octane.pdb"
                 14 vi middle.sh
multiple
                 15
                          # Select lines from the middle of a file.
arguments
                          # Usage: bash middle.sh filename end line num lines
                 16
                          head -n "$2" "$1" | tail -n "$3"
                 17
                 18 bash middle.sh pentane.pdb 15 5
                 19 bash middle.sh pentane.pdb 20 5
                 20 cd ../creatures
loops
                 21 vi list creatures.sh
                          for filename in basilisk.dat unicorn.dat
                 22
                 23
                          do
                             head -n 2 $filename | tail -n 1
                 24
                 25
                          done
                 26 bash list creatures.sh
```

```
27 cp *.dat original-*.dat
Expanding
                 28 vi copy files.sh
wildcard
                           for filename in *.dat
Processing
                  29
                            do
Files
                  30
                               echo "$filename"
                  31
                  32
                           done
                  33 bash copy files.sh
                  34 vi copy files.sh
                           for filename in *.dat
                  35
                  36
                                echo "cp $filename original-$filename"
                  37
                  38
                           done
                  39 bash copy files.sh
                  40 vi copy files.sh
Introduce $@
                           for filename in $@
                  41
                           do
                  42
                                echo cp "$filename" original-"$filename"
                  43
                  44
                           done
                  45 bash copy files.sh *.dat
                  46 ls -1 copy files.sh
Permission
                  47 chmod +x copy files.sh
to execute
                 48 vi copy files.sh
and define
                           #!/usr/bin/env bash
shebang
                  49
                           for filename in $@
                  50
                  51
                           do
                                echo cp "$filename" original-"$filename"
                  52
                  53
                           done
                  54 ./copy files.sh *.dat
```