

```

if [ $message_level -le $LOG_LEVEL ]; then
    case $message_level in
        0) message_level_text="Error" ;;
        1) message_level_text="Warning" ;;
        2) message_level_text="Info" ;;
        3) message_level_text="Debug" ;;
        *) message_level_text="Other"
    esac
    echo "${message_level_text}: $message_itself"
fi
}

```

This routine illustrates the common “log level” paradigm used by many administrative applications. The code of the script generates messages at many different levels of detail, but only the ones that pass a globally set threshold, `$LOG_LEVEL`, are actually logged or acted upon. To clarify the importance of each message, the message text is preceded by a label that denotes its associated log level.

## Loops

`bash`'s `for...in` construct makes it easy to take some action for a group of values or files, especially when combined with filename globbing (the expansion of simple pattern-matching characters such as `*` and `?` to form filenames or lists of filenames). The `*.sh` pattern in the loop below returns a list of matching filenames in the current directory. The `for` statement then iterates through that list, assigning each filename in turn to the variable `script`.

```

#!/bin/bash

suffix=BACKUP--`date +%Y%m%d-%H%M`

for script in *.sh; do
    newname="$script.$suffix"
    echo "Copying $script to $newname..."
    cp $script $newname
done

```

The output looks like this:

```

$ sh forexample
Copying rhel.sh to rhel.sh.BACKUP--20091210-1708...
Copying sles.sh to sles.sh.BACKUP--20091210-1708...
...

```

The filename expansion is not magic in this context; it works exactly as it does on the command line. Which is to say, the expansion happens first and the line is then processed by the interpreter in its expanded form.<sup>7</sup> You could just as well have entered the filenames statically, as in the line

```
for script in rhel.sh sles.sh; do
```

7. More accurately, the filename expansion is just a little bit magic in that it does maintain a notion of the atomicity of each filename. Filenames that contain spaces will go through the `for` loop in a single pass.