Quiz: POSIX Shell II (Practice Problems)

1 If statements

Problem 1. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
if [ $foo = "hello" ]; then
    touch if
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 2. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
if [ $foo != "hello" ]; then
    touch if
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 3. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<EOF
foo='hello'
if [ $foo = "hello" ]; then
    touch if
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 4. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello world'
if [ $foo = "hello" ]; then
    touch if
fi
EOF
$ sh quiz.sh
$ ls
```

1.1 The `else` and `elif` keywords

Problem 5. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello world'
if [ $foo = "hello" ]; then
    touch if
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 6. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<EOF
foo='hello'
if [ "$foo" = "hello" ]; then
    touch if
elif [ "$foo" = "hola" ]; then
    touch elif
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 7. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<EOF
foo='hello'
if [ "$foo" = "hello" ]; then
    touch if
elif [ "$foo" = "hola" ]; then
    touch elif
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

1.2 && and ||

Problem 8. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<EOF
foo='hello'
if [ "$foo" = "hello" ] || [ "$foo" = "hola" ]; then
    touch if
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 9. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
bar='salve'
if [ "$foo" = "hello" ] && [ "$bar" = "salve" ]; then
    touch if
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 10. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
bar='salve'
if true && [ "$bar" = "salve" ]; then
    touch if
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 11. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
bar='salve'
if false || ([ "$bar" = "salve" ] && true); then
    touch if
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

1.3 The ! operator

Problem 12. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
if ! [ $foo = "hello" ]; then
    touch if
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 13. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
if ! [ $foo != "hello" ]; then
    touch if
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 14. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ cat > quiz.sh <<'EOF'
foo='hello'
bar='salve'
if ! true || [ "$bar" != "salve" ]; then
    touch if
else
    touch else
fi
EOF
$ sh quiz.sh
$ ls
```

2 Inline conditions

Problem 15. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ false || echo $foo > false
$ true || echo $foo > true
$ ls
```

Problem 16. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ false && echo $foo > false
$ true && echo $foo > true
$ ls
```

Problem 17. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ (false && echo $foo) > false
$ (true && echo $foo) > true
$ ls
```

Problem 18. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ [ "$foo" = 'hello' ] && echo $foo > false
$ ls
```

Problem 19. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ [ "$foo" = 'hello' ] || echo $foo > false
$ ls
```

Problem 20. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ foo='hola'
$ ! [ "$foo" = 'hello' ] || echo $foo > false
$ ls
```

3 Exit codes

Problem 21. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ cat > logs <<EOF
INFO: blah
INFO: blah
ERROR: blah blah blah
INFO: blah
EOF
$ cat logs | grep 'ERROR' || echo 'hello world' > foo
$ ls
```

Problem 22. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ cat > logs <<EOF
INFO: blah
INFO: blah
WARNING: blah blah blah
INFO: blah
EOF
$ cat logs | grep 'ERROR' || echo 'hello world' > foo
$ ls
```

Problem 23. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ cat > logs <<EOF
INFO: blah
INFO: blah
WARNING: blah blah blah
INFO: blah
EOF
$ cat logs | grep 'ERROR' && echo 'hello world' > foo
$ ls
```

Problem 24. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ cat > logs <<EOF
INFO: blah
INFO: blah
ERROR: blah blah blah
INFO: blah
EOF
$ cat logs | grep 'ERROR' && echo 'hello world' > foo
$ ls
```

Problem 25. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ cat > logs <<EOF
INFO: blah
INFO: blah
ERROR: blah blah blah
INFO: blah
EOF
$ cat logs | grep 'ERROR' > /dev/null && echo 'hello world' > foo
$ ls
```

3.1 Commands inside if

Problem 26. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ cat > logs <<EOF
INFO: blah
INFO: blah
ERROR: blah blah blah
INFO: blah
EOF
$ cat > quiz.sh <<'EOF'
if cat logs | grep ERROR > /dev/null; then
    touch if
fi
EOF
$ sh quiz.sh
$ ls
```

Problem 27. Write the output of the final command in the following terminal session. If the command has no output, then leave the problem blank.

```
$ cd; rm -rf quiz; mkdir quiz; cd quiz
$ cat > logs <<EOF
INFO: blah
INFO: blah
WARNING: blah blah blah
INFO: blah
EOF
$ cat > quiz.sh <<'EOF'
if cat logs | grep ERROR > /dev/null; then
    touch error
elif cat logs | grep WARNING > /dev/null; then
    touch warning
elif cat logs | grep INFO > /dev/null; then
    touch info
fi
EOF
$ sh quiz.sh
$ ls
```