

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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 if [ $foo = "hello" ]; then
6     touch if
7 fi
8 EOF
9 $ sh quiz.sh
10 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 if [ $foo != "hello" ]; then
6     touch if
7 fi
8 EOF
9 $ sh quiz.sh
10 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<EOF
4 foo='hello'
5 if [ $foo = "hello" ]; then
6     touch if
7 fi
8 EOF
9 $ sh quiz.sh
10 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello world'
5 if [ $foo = "hello" ]; then
6     touch if
7 fi
8 EOF
9 $ sh quiz.sh
10 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello world'
5 if [ $foo = "hello" ]; then
6     touch if
7 else
8     touch else
9 fi
10 EOF
11 $ sh quiz.sh
12 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<EOF
4 foo='hello'
5 if [ "$foo" = "hello" ]; then
6     touch if
7 elif [ "$foo" = "hola" ]; then
8     touch elif
9 else
10     touch else
11 fi
12 EOF
13 $ sh quiz.sh
14 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<EOF
4 foo='hello'
5 if [ "$foo" = "hello" ]; then
6     touch if
7 elif [ "$foo" = "hola" ]; then
8     touch elif
9 else
10    touch else
11 fi
12 EOF
13 $ sh quiz.sh
14 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<EOF
4 foo='hello'
5 if [ "$foo" = "hello" ] || [ "$foo" = "hola" ]; then
6     touch if
7 else
8     touch else
9 fi
10 EOF
11 $ sh quiz.sh
12 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 bar='salve'
6 if [ "$foo" = "hello" ] && [ "$bar" = "salve" ]; then
7     touch if
8 else
9     touch else
10 fi
11 EOF
12 $ sh quiz.sh
13 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 bar='salve'
6 if true && [ "$bar" = "salve" ]; then
7     touch if
8 else
9     touch else
10 fi
11 EOF
12 $ sh quiz.sh
13 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 bar='salve'
6 if false || ([ "$bar" = "salve" ] && true); then
7     touch if
8 else
9     touch else
10 fi
11 EOF
12 $ sh quiz.sh
13 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 if ! [ $foo = "hello" ]; then
6     touch if
7 fi
8 EOF
9 $ sh quiz.sh
10 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 if ! [ $foo != "hello" ]; then
6     touch if
7 fi
8 EOF
9 $ sh quiz.sh
10 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ cat > quiz.sh <<'EOF'
4 foo='hello'
5 bar='salve'
6 if ! true || [ "$bar" != "salve" ]; then
7     touch if
8 else
9     touch else
10 fi
11 EOF
12 $ sh quiz.sh
13 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ false || echo $foo > false
4 $ true || echo $foo > true
5 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ false && echo $foo > false
4 $ true && echo $foo > true
5 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ (false && echo $foo) > false
4 $ (true && echo $foo) > true
5 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ [ "$foo" = 'hello' ] && echo $foo > false
4 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ [ "$foo" = 'hello' ] || echo $foo > false
4 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ foo='hola'
3 $ ! [ "$foo" = 'hello' ] || echo $foo > false
4 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > logs <<EOF
3 INFO: blah
4 INFO: blah
5 ERROR: blah blah blah
6 INFO: blah
7 EOF
8 $ cat logs | grep 'ERROR' || echo 'hello world' > foo
9 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > logs <<EOF
3 INFO: blah
4 INFO: blah
5 WARNING: blah blah blah
6 INFO: blah
7 EOF
8 $ cat logs | grep 'ERROR' || echo 'hello world' > foo
9 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > logs <<EOF
3 INFO: blah
4 INFO: blah
5 WARNING: blah blah blah
6 INFO: blah
7 EOF
8 $ cat logs | grep 'ERROR' && echo 'hello world' > foo
9 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > logs <<EOF
3 INFO: blah
4 INFO: blah
5 ERROR: blah blah blah
6 INFO: blah
7 EOF
8 $ cat logs | grep 'ERROR' && echo 'hello world' > foo
9 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > logs <<EOF
3 INFO: blah
4 INFO: blah
5 ERROR: blah blah blah
6 INFO: blah
7 EOF
8 $ cat logs | grep 'ERROR' > /dev/null && echo 'hello world' > foo
9 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > logs <<EOF
3 INFO: blah
4 INFO: blah
5 ERROR: blah blah blah
6 INFO: blah
7 EOF
8 $ cat > quiz.sh <<'EOF'
9 if cat logs | grep ERROR > /dev/null; then
10     touch if
11 fi
12 EOF
13 $ sh quiz.sh
14 $ 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.

```
1 $ cd; rm -rf quiz; mkdir quiz; cd quiz
2 $ cat > logs <<EOF
3 INFO: blah
4 INFO: blah
5 WARNING: blah blah blah
6 INFO: blah
7 EOF
8 $ cat > quiz.sh <<'EOF'
9 if cat logs | grep ERROR > /dev/null; then
10     touch error
11 elif cat logs | grep WARNING > /dev/null; then
12     touch warning
13 elif cat logs | grep INFO > /dev/null; then
14     touch info
15 fi
16 EOF
17 $ sh quiz.sh
18 $ ls
```