

1. What are the three main data (variable) types in Perl?

Scalars, Arrays, Hashes.

2. What is the input into the following Perl program and what does it do?

```
$file1 = shift(@ARGV);
$file2 = shift(@ARGV);
open(INPUT, "$file1");
open(OUTPUT, ">$file2");
while (<INPUT>) {
    print OUTPUT $_;
}
close(INPUT); close(OUTPUT);
```

It take two files as input and copies the line from the first one into the second one.

3. What is the input into the following Perl program and what does it do?

```
while ($line = <STDIN>) {
    $line =~ s/ab*c/ABC/g;
    print $line;
}
```

It reads lines from standard input and writes the lines back to standard output with the change that all occurrences of the pattern  $ab^*c$  are converted to  $ABC$ .

4. What is the input into a lexical analyzer generator tool (like JFlex) and what does the code that it produces emulate?

The input is a set of regular expressions (regular definitions) and the output is code that emulates a Deterministic Finite-State Automaton.

5. Write a *sed* command which substitutes all sequences of one or more digits in the input file *data.txt* with a # sign and writes the result back to standard out. Note that the positive closure operator (+) does not work in sed!

```
sed 's/[0-9][0-9]*/#/g' < data.txt
```