C2110 *UNIX and programming*

8. lesson / module 3

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Petr Kulhanek

kulhanek@chemi.muni.cz

National Center for Biomolecular Research, Faculty of Science
Masaryk University, Kamenice 5, CZ-62500 Brno

Functions

Functions - Definition

Function is a construct that allows you to group a piece of code so that it can be easily used in multiple places in a script. The function therefore simplifies and notation of repetitive tasks.

Definition:

```
function name () {
        command1
        command2
        ...
}
```

```
function name {
        command1
        command2
        ...
}
```

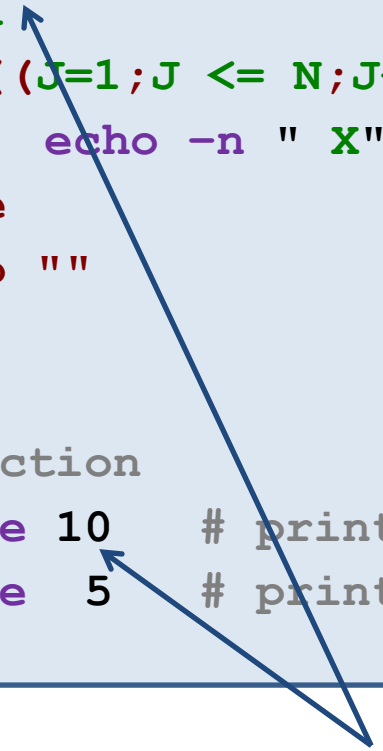
```
name () {
        command1
        command2
        ...
}
```

Function arguments are not declared, so there is no control in the number of arguments, type control, function can not be overloaded. The specified arguments are available via special variables #, 1 to 9, *. Functions are called as an existing command. **Variables in the function are global** (can be changed using keyword local). Documentation: man bash, section FUNCTIONS.

Functions - Usage

```
# print line - the length is in the first argument
function print_line () {
      N=$1
      for((J=1;J <= N;J++)); do
            echo -n " X"
      done
      echo ""
}

# use function
print_line 10    # print line 10 characters long
print_line  5    # print line 5 characters long
```



value of argument is available in a special variable **1**

Exercises

1. Write one script that prints a square and a triangle (similar to Tasks 1 and 2) for one specified length one after another to the terminal. In the script, identify the part that is being repeated and rewrite it using function.

```
x x x x
x x x x
x x x x
x x x x

x x x x
x x x
x x
x
```

Ignore the fact that it is not visually a square. However, number of **X** characters for a line and the number of lines must be the same. Possibly use "X " - X and a space.