

Electrical Engineering and Information Technology, B.Eng
Introduction to the C Programming Language: Exercises

Exercise Sheet 9

1. Write a 'C'-function `time()`, which converts a number of seconds into hours, minutes and seconds using pointers to give the computed values back to the calling place. E.g.

```
void time(int second_in, int *hour_out, int *minute_out, int *second_out);
```

Example: 4548 sec = 1:15:48 h. Test `time()` in a `main()`, which reads the input seconds with `scanf()`, calls `time()` and prints the values with `printf()` to the screen, which are given back with pointers by `time()`.

2. If you call a compiler from the console window in the Unix/Linux-world, you may add some options which commence with a '-' sign. E.g.

```
>gcc -c myprogram.c
```

means: call the gnu-C-compiler to translate `myprogram.c`. The option `-c` says: create an object file and no executable file.

Write a program `arguments.c` which may be called with several options starting with a '-' sign and having a lower-case character between 'a' and 'h'. The program shall print the letters of the recognized options to the screen and shall give an error hint if there are not allowed options on the command line. Entering

```
>arguments -b -g -t
```

generates

```
>recognized b  
>recognized g  
>wrong option t
```