Institut for Matematik og Datalogi
Syddansk Universitet

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Programming A
2nd Weekly Note (E11, Week 36)

Announcement

One of the teaching assistants (Felix) has put up a website with additional exercises:

`http://dm502.vigtig.it/`

If you feel like some additional practice or are just looking for a challenge, give these a try.

Reading for Week 36

- Chapters 3-6 of "Think Python: How to Think Like a Computer Scientist"

Lecture: Monday, September 5, 12-14 (U20)

We will start by repeating what we learned about variables and expressions. Then we will learn how to use and how to define functions. We will practice the application of these basic building blocks by applying them to turtle graphics.

Study group: Tuesday, September 6, 10-12

The first year students meet with their study group. Please use some time on discussing how you are dealing with the course so far. Is there anyone who feels left behind? Can the group come to help here? It would be great to get some feedback from each group.

Download the `swampy` package and test that you can run `AmoebaWorld.py`. Now, you can repeat what you learned about Python expressions to control a blobby creature. Try different expressions for `x` and `y`.

Finally, as the second lecture will introduce recursion, it would be good to discuss recursive definitions in mathematics. For example, take a look at the fibonacci numbers and their definition. Find and discuss other examples of recursion, e.g., fractals in nature like the Koch snowflake or the Sierpinski triangle.

Lecture: Wednesday, September 7, 10-12 (U20)

In this lecture we will repeat and extend what we know about functions. Additionally, we will introduce conditional execution. Finally, we will use functions and conditional execution to solve problems by using recursive functions.

Lab: see detailed schedule on course home page

First do Exercises 3.1–3.5 and 5.1–5.2 from the textbook. Then install the `swampy` package available from the course homepage:

`http://imada.sdu.dk/~petersk/DM502/lit/swampy-2.0.zip`

Do the exercises in Section 4.3 of the textbook as well as Exercises 5.3–5.4. If you are fast, also do Exercises 4.1–4.4 of the textbook.